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ECLECTIC JOURNAL OF MEDICINE

James Rankin

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THE ECLECTIC

James Rankin

JOURNAL OF MEDICINE.

EDITED BY

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EIGHTH MEETING OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE; HELD AT NEWCASTLE.

If the prosperity of the Association can be judged of by the numbers enrolled, it goes on swimmingly. At the close of the Bristol Meeting there were 1350 members; at the close of the Liverpool Meeting 1840; whereas the tickets issued up to Wednesday night were 2350. As we concern ourselves principally with the scientific business of the Association, we shall merely record here, that the bustle of arrival began on Thursday and Friday, and that on Saturday about fifty members dined together at the Ordinary, Mr. J. Taylor, the Treasurer, in the chair, supported by Prof. Sedgwick, Dr. Robinson, of Armagh, Mr. Greenough, Dr. Richardson, the Rev. L. Jenyns, Rev. F. W. Hope, &c. On Sunday the Bishop of Durham preached a sermon, which was attended by many members of the Association. On Monday the Sectional Committees met at ten o'clock to prepare and arrange business, and at eleven the Sections opened.

Section E.—MEDICAL SCIENCE.

President.—T. E. Headlam, M.D. *Vice Presidents.*—Prof. Wm. Clark, M.D., John Yelloly, M.D., Mr. John Fife. *Secretaries.*—Mr. T. M. Greenhow, J. A. Vose, M.D. *Committee.*—P. M. Roget, M.D., A. B. Granville, M.D., R. S. Sargent, M.D, B. T. Evanson, M.D., C. J. B Williams. M.D., J. C. Pritchard, M D., Mr. John Baird, W. Lynch, M.D., N. T. Smith, M.D., Mr. William Fife, R. Reed, M.D., Chas. Wightman, M.D., J. Carson, jun. M.D, Prof. Owen, J. Reid, M.D., R. D. Thomson, M.D., Jos. Brown, M.D., Mr. Wm. Morrison.

A paper was read by Mr. T. M. Greenhow, 'On the Beneficial Action of Mercury rapidly introduced in certain cases of Neuralgia.'

After some general remarks on mercury as an important therapeutic agent, he stated the following conclusions, as generally derivable from its usual effects: 1st. In secondary syphilis, when slowly introduced into the system, much valuable time was frequently lost, as in iritis. 2d. That the injurious effects of it, which were sometimes observed to follow its operation in syphilis, did not follow when administered for liver disease. 3d. In syphilis, if not quickly beneficial, it proved detrimental, being either a "bane or antidote." 4th. That the mode of administration frequently decided which operation followed; and 5th. That in iritis and amaurosis, the beneficial effects were proportioned to the rapidity of its introduction into the system. Two cases were then detailed, in which the rapid introduction of mercury into the system proved completely successful, in removing severe and long-continued neuralgia,—the first occurring after a severe attack of hemiplegia, which was removed by ordinary treatment. The neuralgia recurred once after removal from the lower extremity in another situation, in the shoulder and arm, and was again relieved, and permanently, by the rapid action of calomel and opium. The second case of severe neuralgia occurred in a lady, who previously had given birth to still-born children. The violence and long continuance of the disease resisted all the usual external and internal remedies, and had shattered both mental and bodily health. The disease completely disappeared on the rapid introduction of mercury into the system, though it had previously resisted the slow action of the same remedy. Other painful afflictions were adduced, in proof of the efficacy of this mode of treatment,

that could not be suspected of having any connexion with a syphilitic taint in the constitution.

Dr. Granville inquired as to the degree of salivation induced.—Mr. Greenhow replied, that a decided affection of the gums with slightly increased action of the salivary glands was enough, without profuse salivation.—Dr. Browne confirmed the observations contained in the paper, by cases in which mercurial action removed severe neuralgia, not connected with inflammation or syphilis.

Mr. R. M. Glover read a paper, 'On the Functions of the Rete Mucosum and Pigmentum Nigrum in the dark races, and particularly in the Negro; with Observations on a paper on the same subject by Sir Everard Home.'

The paper commenced by stating, that the degree of development of the rete mucosum and its pigment, determined the power of resisting the excessive heat of the sun in tropical climates, as evinced by the Negro (the type, in this respect, of the dark races), the European and the Albino. The *modus operandi* must be discovered by an attention to both the physical and vital properties of this peculiar organization. The doctrine at present taught on the subject is, that the black skin absorbs more heat, but that the cutis vera of the negro is not so liable to inflammation from a high temperature, as that of a European from a lower temperature; and as the radiation of caloric from black must be greater than from white skins, the possessor of the former must cool more readily, and enjoy greater alternations of heat and cold. The former part of this doctrine is founded on the experiments and deductions of Sir Everard Home, as detailed in his paper in the Philosophical Transactions. A number of experiments detailed in the paper on the vesicatory powers of differently coloured substances, under the concentrated rays of the sun, contradicted the deductions of Sir E. Home, and hence arose the necessity of looking to the vital properties of the skin of the negro, and the mode in which it is likely to be affected by the radiating and absorbing power of the pigment with which he is provided. Blumenbach and Winterbottom state, that the negro perspires more readily and freely than the European—and Davy says, "In the inhabitants of the tropics, the exhalant arteries of the skin seem unusually expanded, and the whole apparatus peculiar to this secretion unusually developed; and I believe that the blood itself is less viscid, more fluid, and flows more readily through the vessels, so as to promote perspiration, and by that means contributing to the cooling of the surface. And being cooled itself, it contributes again, when it flows back upon the heart, to the reduction of the temperature of the internal parts." Were the inhabitant of the tropics not possessed of this peculiar organization, his system could not respond to the stimulus of heat, by a determination of fluid toward the surface. Doubtless, the excessive absorption of heat by his skin, is useful in promoting this effect; but in the system qualified to respond to the stimulus of heat, and not in the organization of the skin alone, must an explanation be sought of the capability of the negro to withstand the heat of tropical regions.

In the next paper, Dr. John Reid gave an account of 'An Experimental Investigation of the Functions of the Eighth Pair of Nerves.'

This communication contained some of the principal results which Dr. Reid has obtained in prosecuting this inquiry since the last meeting of the Association. Dr. Reid chiefly confined himself to the Pulmonary and Gastric branches of the Nervus Vagus. In a great number of experiments upon dogs, in which the nervi vagi and recurrents were divided, Dr. Reid satisfied himself, that when a sufficient quantity of air reached the lungs, the respirations were at first performed with ease. The only immediate and constant effect observed was, a great diminution in the number of the respiratory movements, which at the same time became slower and more heaving. When the number of respirations were from 16 to 20 in a minute, they, in general, instantly fell to from 6 to 8. In one animal, in which they were from 24 to 28, they immediately fell to 14; and, in another animal, in which they were 24, they fell to 8. At a longer or shorter period after section of the nerves, the inspirations became more prolonged and heaving, while the expirations continued to be comparatively short and rapid, and attended by a sound caused by the sudden expulsion of the air. After a time, the inspirations become more heaving and prolonged, the blood is less perfectly ar-

terialized in the lungs, and the arteries circulate blood gradually approaching the venous character; the animal becomes dull and stupid, and dies asphyxiated. In tracing the morbid changes upon the lungs, which follow section of the vagi, Dr. Reid has satisfied himself, from the dissection of animals killed at various periods after section of the vagi, that the blood-vessels of the lungs become gradually loaded with blood, and that this, in a few cases, is the only change which can be observed after death. More frequently, however, this congestion of the lungs gives rise to effusion of serum, which, in the bronchial tubes, is rendered frothy by the passage of air through it; to condensation of portions of the lung without any apparent effusion of lymph; and more rarely to true pneumonia. The respiratory murmur is little, if at all, changed for a short time, but it afterwards becomes bronchial; and, when the effusion of serum takes place, the true *crepitans râle* may be heard. It appears, however, that these morbid changes in the lungs do not necessarily take place after section of both vagi and recurrents. In a dog, which was killed in the presence of Dr. Alison, twelve days after section of the vagi and recurrents, and which had apparently recovered from the effects of the operation, the lungs were found perfectly healthy, though the cut end of both vagi were rather more than one inch distant from each other. Dr. Reid believes that the diminished frequency of the respiratory movements is sufficient to explain all the morbid changes in the lungs, which result from section of the nervi vagi. He related several experiments to prove, that the respiratory movements are not arrested by division of the vagi and recurrents after removal of the cerebrum and cerebellum. In these experiments, it was, however, observed, that though section of the vagi did not arrest the respiratory muscular movements, they were much diminished in frequency. While these experiments illustrate the great importance of the par vagum as exciters of respiration, they also prove that there are other nerves which can transmit those impressions to the medulla oblongata, which excite the respiratory movements; and Dr. Reid adduced some facts to show, that one of the most important of these was the larger root of the fifth pair distribued upon the face. Dr. Reid then related four experiments, which he considered to afford satisfactory evidences of the continuance of digestion after section of both vagi, with loss of substance. In three of these, the lacteals and thoracic duct were found full of chyle. From these experiments, he concluded, that, though by division of the vagi a deleterious influence is propagated downward to the stomach, disturbing the functions of the digestive organs; yet, if the animal live long enough, this goes off, and digestion proceeds as before. He related some experiments to prove, that alcohol, opium, and prussic acid exert their deleterious effects as rapidly when injected into the stomach after division of the vagi, as when these nerves are left entire. He then detailed the result of five comparative experiments upon the effects of fatal doses of arsenic upon the watery and mucous secretions from the inner surface of the stomach and intestines. These results were completely at variance with the statement of Sir B. Brodie, that section of the vagi arrests the usual mucous and watery secretions of the stomach and intestines observed after poisoning with arsenic. He stated, that he had of late carefully watched the effects of division of the sympathetic nerve on the eye, and that he had satisfied himself that the contracted state of the pupil, and the partially-closed eyelids, which accompany the inflammation of the conjunctiva, consequent upon section of the sympathetic, take place previously to the inflammation of the conjunctiva, and are independent of it.

Prof. Owen requested to know, if albumen were discovered in the thoracic duct after the division of the vagi nerves. Dr. Reid replied, that no chemical analysis was made of the contents, but true digestion was inferred by him from the return of health and activity to the animal operated on.—Dr. Golding Bird pressed the same objection as Professor Owen, and wished that an experiment on the subject should be followed up by such a chemical investigation as would be decisive.

TUESDAY.

The Section did not meet until half-past eleven o'clock, as the greater

number of Members had gone by invitation to be present at the operations performed in the infirmary. The first paper was read by Mr. Torbock on Uterine Hemorrhage, the object of which was to introduce a new mode of applying pressure in certain forms of the disease. A few cases were adduced in proof of its efficiency.

A conversation ensued, in which the danger of relying on any *merely* mechanical treatment, to the exclusion of fundamental principles previously established, was pointed out by Drs. Granville, Lynch, and Knott.

Dr. Robert D. Thomson then read a paper, by Mr. N. Farr 'On the Law of Recovery and Mortality in Cholera Spasmodica.'

Dr. Thomson introduced his subject by making some general remarks upon the importance of applying the precise language of mathematical science to all branches of natural knowledge; and, after apologizing for bringing mathematical formulæ before medical men, stated that the only mode of placing medicine on a level with the sciences which are of a demonstrable, and therefore irresistible nature, will be by establishing it on a mathematical basis—for until we can calculate with absolute precision on the natural laws of diseases, and on the action of remedies, we can be only said to labour in our vocation like the ancient mariners, who could never venture beyond the confines of the ocean without suffering the most disastrous consequences. Dr. Thomson had been induced to bring the present subject before the Medical Section at the request of the able author, whose absence he regretted, for the purpose of showing that the law which regulated the disease so well known under the name of Indian cholera was as precise as any of those which guided the heavenly bodies in their courses. It was a curious fact that the state of medicine was so far in arrear in this country, that, although numerous cholera hospitals had been established in this country during the prevalence of that disease, not one of their conductors had paid any attention to the proper mode of registering the features of the disease, so as to render them available for drawing conclusions of any value; and that the only place which had hitherto afforded the proper data for this purpose was Rome, a city to which many persons were ignorantly inclined to deny any credit in a scientific point of view. The subsequent conclusions were deduced from 9372 registered cases, in 1837, published by the Roman Board of Health in their report, for which the author was indebted to Sir James Clark. It affords a striking proof of the importance of Boards of Health and of the great superiority of the Papal provisions for the health of the inhabitants, and formed a striking contrast to the laws of England. It would be highly desirable, in the absence of such provisions by government, that physicians of hospitals should decide upon a uniform method of registering the principal features of diseases. The principal points to attend to were the *day of the disease*, or day of attack; second, the *day of recovery*, distinguishing males from females; and third, the *day of death*. From data of this kind the extensive tables presented to the meeting were deduced. One of these tables exhibited the numbers dying and recovering on each day after attack, and contained calculations from theoretical considerations, which closely approached the amounts derived from facts. The following table will show this more clearly:—

Out of one hundred constantly sick:

	Deaths.		Recoveries.	
	Observed.	Calculated.	Observed.	Calculated.
5th day . .	5.471	5.650	6.747	6.747
6th	5.684	5.056	8.295	7.929
7th	4.500	4.523	9.219	9.317

The following table expresses the probability of recovery and death during the first ten days after attack:—

Days.	Probability of Recovery.	Probability of Death.
0	.422	.578
1	.542	.458
2	.668	.332
3	.729	.271
4	.763	.237

Days.	Probability of Recovery.	Probability of Death.
5	.791	.209
6	.821	.179
7	.843	.157
8	.862	.138
9	.873	.127
10	.883	.115

From the tables may be deduced the following problems :—viz. 1st, the mean duration of the disease ; 2d. the mean future duration of the disease at any period ; 3d, the probability of dying at any period of the disease.

Dr. Granville deprecated the attempts to introduce laws mathematically drawn or expressed, into the immediate subjects of medical inquiry, such as the present. The laws derivable from physical inquiries, such as astronomy, had their value from the known laws of gravitation, but no similar fundamental law was known in physiology ; and the innumerable modifying circumstances, such as differences of age, sex, treatment, and diversity of constitution, would interminably disturb any deductions thus made on the questions of disease.—Dr. Thomson, in answer, referred to the close coincidence of the law (expressed by a mathematical curve) and the observations recorded, and explained some points in the structure of the tables.—Dr. Sargent differed from Dr. Granville as to the impracticability of ever arriving at any approximation to such a law as that now exhibited. It was impossible to view the tables before them, even cursorily, to compare them with the manifest deduction as to regular gradations, and with his own observations on the gradual diminution of the mortality of the dreadful epidemic in several invasions, without coming to the conclusion, that the coincidence, or approximation of the observations and calculations, must have a foundation in nature. As to the modifying circumstances mentioned, these were difficulties, no doubt, not to be overlooked : and did not disturbing elements and difficulties occur in physical investigations ?

Mr. Joseph Blake then read a paper ' On the action of various Substances on the Animal Economy, when injected into the Veins,' in which were detailed a number of experiments with various substances, and their effect on the vascular system, measured by an ingenious instrument, which the author denominated a Hæmadynameter, formed by a glass tube, having both extremities proceeding from an angle,—one being attached to a scale, measuring the height to which a column of mercury was raised by the action of the current of blood in the artery, into which the other extremity was introduced. The substances introduced, in solution, into the veins, were divided into three classes, from their effects. In the *first*, were those which produced death, by directly acting on the contractility of the heart, amongst which were nitrate of potassa, arseniate of potassa, subcarbonate of soda, biniodide of arsenic, oxalic acid, and solution of galls ; all these acted locally on the heart, and agreed in effecting a change in the colour of the blood, turning it black, probably by forming definite combinations with its constituents. A remarkable difference was observable from the effects of the same substances when absorbed from the stomach. In the *second* class, were those substances which acted directly on the nervous system ; such were strychnia, hydrocyanic acid, and conia. And in the *third*, were those producing death by affecting the capillary circulation ; such were tobacco, euphorbium, and digitalis. The two last classes of substances did not produce any change on the composition of the blood. Several other substances were experimented with, not falling under the above classes, such as morphia and cantharides, the effects of which were the same,—and nitric acid : when the latter was injected into the vein, the column of mercury in the instrument fell from seven inches to one; and after death, the right side of the heart was distended with solid blood.

Dr. Lynch and Mr. Torbock corroborated the observations made in the first class of substances employed, having observed the same changes in the blood produced by acids under different circumstances.

Dr. Barnes then read a paper, containing a report of two cases of well-marked abscess of the lungs from acute inflammation.

WEDNESDAY.

Dr. Yelloly (the Chairman) laid before the Section, a model of an improved acoustic instrument, for the purpose of assisting in cases of partial deafness. He alluded to the very defective nature of our present instruments, both as to utility and convenience, and the importance of having some experimental researches made on the subject; and he proposed, that the section recommend to the General Committee the appointment of a committee to investigate the subject experimentally, and to make a report on the subject, at the next meeting of the Association. Dr. Granville seconded the motion, and proposed that Dr. Yelloly and Dr. Arnott should be named as the Committee.

Professor Owen then read a paper 'On the Structure of Teeth, and the resemblance of Ivory to Bone, as illustrated by microscopical examination of the teeth of man, and of various existing and extinct animals.'

Mr. Owen commenced by showing, that he had availed himself of the advantage afforded by the British Association—viz., that in the communications brought before a sectional committee, a fuller and more detailed retrospect of the progressive steps which have led to any remarkable discovery, is not only permissible, but peculiarly congenial to its general views and objects; and he therefore entered into a full detail of the recent investigations, especially those of Purkinje, Müller, and Retzius, on the intimate structure of the teeth, and particularly dwelt on the discoveries of the latter author, as regarded the structure of the human tooth. After describing the mode of arrangement of the particles of the earthy salts, which characterizes true bone, Professor Owen proceeded to state, that until a very recent period the analogy of tooth to bone was supposed to extend no farther than related to the chemical composition of the hardening material, while the arrangement of this earthy constituent, as well as its mode of deposition during the growth of the entire tooth, were considered to be wholly different to that of bone, and to agree with the mode of growth of hair, and other so-called extra-vascular parts, with which the teeth undoubtedly closely correspond in the general vital properties. He observed, that the supposed proofs of the laminated structure of teeth, derived from the appearances presented by the teeth of growing animals, fed alternately with madder and ordinary food, and by those which often occur during the progress of decomposition of certain teeth, which are then resolved into a series of concentric or superimposed laminæ, were equally applicable to true bone, and were quite unavailable in illustrating the point under consideration: and that the appearances presented by the superficies of vertical sections of teeth, viewed with the naked eye or a low magnifying power, were due, not to the intervals of separate and superimposed lamellæ, but to the different refractions of light, caused by the undulation of a series of parallel tubes proceeding in a contrary direction to the supposed lamellæ. This apparent lamellated structure, however, is not constant, nor equally plain in different teeth; on the contrary, the fractured surface, or the polish section of the human and many other teeth, presents a silky or iridescent lustre, which has attracted the attention of several anatomists. Professor Owen observed, that Malpighi, in whose works may be detected the germs of almost all the great anatomical truths, which have subsequently been matured and established, conceived that the teeth were composed of minute fibres reticularly interwoven; and Leewenhoek in 1683, had discovered, that the apparent fibres of tooth were, in reality, minute tubes. The tubular structure of ivory was rediscovered by Purkinje, in 1835, who also added several interesting facts regarding the structure of the enamel, and more especially determined the nature of that distinct layer of substance, which surrounds the fang in the simple teeth of man and carnivorous animals. The interesting experiments of Professor Müller, on the nature and contents of the *dental tubuli* were then noticed; and, lastly, a condensed analysis was given of the laborious and accurate microscopical observations of Professor Retzius, as related in the original Swedish memoir of that author on the structure of the teeth. Besides confirming the fact, that the ivory or bony constituent of a tooth consists of the fundamental *zahn-substanze* of Purkinje, minute tubes lodged in a transparent medium, disposed in a radiated arrangement in lines, proceeding

in a direction perpendicular to the superficies of the tooth, Professor Retzius has more particularly observed, and described the dichotomous branching of the primary tubes; the minuter ramuli sent off throughout the course of the main tubes into the clear interspaces; the calcigerous cells with which those fine branches communicate, and the terminal ramifications of the tubuli; their anastomoses with each other, and with calcigerous cells at the superficies of the ivory, or bony part of the tooth. Professor Owen also discussed the opinion advanced by Professor Retzius, as to the function of this elaborate contexture of branched and anastomosing tubes and cells, in conveying, by capillary attraction, a slow current of nutritive or preservative fluid, through the entire substance of the tooth; which fluid might be derived either from the superficies of the pulp in the internal cavity of the tooth, or from the corpuscles or cells of the external layer of cortical substance or *cæmentum*,—with the tubes radiating from which corpuscles, the fine terminal tubes of the ivory anastomose. Professor Owen concluded the critical portion of his communication, by explaining the views entertained by Professor Retzius on the analogy subsisting between tooth and bone, which analogy he then proceeded to illustrate by his own observations on the structure of recent and fossil teeth.

Of the descriptions given by Prof. Owen of these teeth we select the following examples:—In the *Orang Utan* the main calcigerous tubes of the ivory, which radiate from the central cavity of the pulp, are somewhat larger than those in man; they present the same primary curvatures, but less numerous and less strongly marked secondary curvatures.* In the crown of the tooth of the orang, the dental tubes are chiefly branched at their extremities, while towards the apex of the fang the main tubes are surrounded by exceedingly fine and close-set branches, which subdivide in their course. The nearer the crown the larger are these branches; they are curved, with the concavity towards the pulp. In the *Leopard*, the dental tubuli of the canine teeth are chiefly remarkable for the number of their ramifications, and the beautiful curvatures of the same. In the *Mole*, the main tubes are remarkable for their width and shortness; they are as large at their commencement as in the human tooth, but soon divide at their extremities into a number of smaller branches, which again subdivide; the terminal twigs anastomosing and communicating with minute calcigerous cells immediately beneath the enamel. The *Sloth* presents, as Retzius rightly observes, the greatest deviation from the ordinary structure of the teeth of mammalia. The substance, which corresponds to the true ivory, forms only a very thin layer on the superficies of the tooth, and is generally worn away from the crown; the central yellowish substance of the tooth presents a number of coarse canals, about one-tenth of a line in diameter; these radiate in a beautiful manner from the upper part of the pulp cavity, those in the middle proceeding parallel to the axis of the tooth, those at the circumference curving outwards. These canals are unequal, presenting partial dilatations, which, however, are sometimes, though rarely, discernible in the tubuli of human teeth; they give off numerous tortuous branches of different sizes, and these open into very distinct calcigerous cells scattered about the interspaces of the coarser canals; the fine crust of ivory above mentioned is formed by minute tubes directly continued from the finer ramifications of the large canals, and terminated in plexus of still finer tubes, which at length escape the highest magnifying powers. The fang, or inserted part of the tooth of the sloth, is coated with a layer of *crusta petrosa*, which is characterized by large canals and abundant *Purkinjian corpuscles*. There is no enamel in the composition of these teeth or of those of any of the existing Edentata.

Megatherium.—Microscopic examinations of the structure of the tooth of this extinct mammifer have undeceived me with respect to its conformation, the

* The primary curvatures Prof. Owen explained to be those which belong to the general course of the dental tube, and which are seen with a lower power; in man they resemble the curves of the Greek zeta. The secondary curves are the minute undulations in the whole course of the tube, requiring a high power for their perception, and affecting both the main trunks and their branches; these indicate the movements of the formative pulp during the development of the tooth.

thin dense layer between the crusta petrosa and the internal substance composing the body of the tooth, is not enamel, but a layer of ivory composed, like the ivory of the highly-organized teeth of other mammalia, of minute tubes having a parallel course at right angles to the surface, and minutely undulating in that course. The body of the tooth consists of a coarser ivory, much resembling the teeth of *Psammodus* or *Myliobatis*, among fishes. It is traversed by large canals parallel to each other and to the finer ivory tubes, having angular interspaces equal to one and a half diameter of their own area, and generally anastomosing in pairs by a loop where convexity is close to the origin of the fine ivory tubes, as if each pair so joined was composed of one reflected canal. Some, however, are continued across the fine ivory, and appear to anastomose with the corresponding canals of the *cæmentum*, the interspaces of the coarse ivory tubes appear at first view granular, but they are principally occupied by reticular branches given off from the canals; some of these anastomosing branches are seen coming off from the concavity of the loops, and retrograding. Numerous minute cells are scattered about the terminal loops of the coarser ivory canals; the origin of the fine ivory tubes seem in many places to communicate with these cells. The fine ivory tubes are separated by interspaces equal to one and a half their own diameter; they divide and subdivide, growing smaller and more wavy towards the periphery or cæmentum; here their terminal branches assume a bent direction, and form anastomoses, dilate into small cells, and many are clearly seen to become continuous with the radiating fibres of the corpuscles of the contiguous *cæmentum*. The cement is traversed by large canals running like the canals of the coarse ivory parallel to each other and to the course of the fine ivory tubes, with interspaces of about five times their own diameter, occasionally, but rarely, dividing dichotomously, in which case the branches usually anastomose and form loops with the convexities towards and close to the outer layer of fine calcigerous cells, in which the fine ivory tubes terminate. The cement differs from the coarse ivory in the fewer number of canals, and more especially by the presence of the bone corpuscles or radiated cells in the interspaces. The irregular tortuous fine tubes forming a network in the interspaces, and especially those proceeding from the convexities of the loops, are much more clear than the corresponding tubes in the coarse ivory. The primary branches of the canals go off generally at right angles. This tooth exhibits perhaps the greatest amount of deviation from the ordinary mammiferous structure, and the nearest resemblance to the teeth of the lower vertebrata.

Of the teeth of reptiles, Prof. Owen described those of several genera, recent and fossil. In the *Sharped-nosed Alligator* (*Crocodilus acutus*,) the exposed part of the tooth is covered with true enamel, and that part which is lodged in the socket is coated with a layer of *cæmentum*. The tubuli are very fine, not exceeding at the widest part $\frac{1}{1000}$ of a line. With a low magnifying power they appear to radiate in straight lines from the *cavitus pulpi* to the superficies of the tooth, proceeding at right angles to that surface: under a higher power, they are seen to be slightly undulating, and to have interspaces equal to five times their own diameters. The main tubes begin to divide soon after their origin, and the branches diverge from each other; these send off numerous finer ramuli, which are generally turned towards the root; these terminate or dilate, in many places, into calcigerous cells, which form numerous layers, generally arranged parallel with the contour of the cavity of the pulp, and most numerous at the circumference of the ivory. It is to these layers of calcigerous cells, and to the parallel curvatures of the tubes, that the apparent laminated structure is seen, by a low magnifying power, in sections of these teeth. A thin membrane lines the cavity of the pulp of even the oldest teeth. The fossil teeth of the extinct reptiles reveal an equally complicated structure. The fang of the fluted teeth of the *Ichthyosaurus* is covered with a thick layer of cæmentum, which fills the interstices of the grooves. The tubuli of the ivory-constituent are extremely minute; they resemble in their arrangement and ramifications those of the crocodile, but the undulations are more numerous and more marked. In the *Iguanodon*, the ivory is composed of close-set tubes, radiating in a wavy course from the *cavitas pulpi* to the superficies; each tube is also minutely undulating. They are coarser than

those of the Ichthyosaurus; and the ivory further differs in the presence of large (vascular?) canals which are seen here and there radiating from the cavity of the pulp.

In the teeth of the genus *Lamna*, a number of coarse canals are continued from the short and small pulp-cavity at the base of the tooth, which ramify and anastomose, so as to form a beautiful reticulate arrangement of tubes, very similar to a network of vessels, throughout the whole substance of the teeth: they ultimately terminate in a flattened sinus, which seems to extend over the whole tooth at a very short distance from its superficies; this space is occupied by minute calcigerous tubes, which proceed in a wavy course, generally at right angles, to the external surface; they ramify, and their terminal branches anastomose, and many of them terminate in a stratum of calcigerous cells, situated between the body of the tooth and what appears to be the outer stratum of enamel. In this stratum, however, there are evident traces of a series of much finer tubes, continued from the preceding layer of cells, which proves that this is not true enamel, but a fine kind of ivory, like that in the tooth of the sloth and megatherium. The coarse reticulate canals in the body of the tooth are surrounded by concentric layers; traversed by the calcigerous tubes, which are every where given off from the larger canals; these canals are occupied, in the recent fish, by a sanguineous medulla, closely resembling that which fills the medullary cells of the coarse bone, to which the base of the tooth is anchylosed, and with which cells the anastomosing reticulate canals of the tooth are directly continuous.

Carcharias Megalodon.—The calcigerous tubes at the superficies of this tooth are disposed in groups, which, with an insufficient magnifying power, appear like single coarse tubes, but with a higher power, are seen to be composed of congeries of parallel tubes, apparently twisted together. The interspaces are nearly equal to the diameter of these curious fasciculi: they are occupied by more scattered tubes, and by short oblique or transverse anastomosing branches. At one part of a section of this tooth, the peripheral coarse sinus or canal, which always runs parallel with the superficies, gave off an infinite number of minute tubes, which formed a plexus, (or plexiform stratum,) and from the outer part of this plexus, the tubes above described passed, at right angles, to the surface. In the longitudinal section of this tooth, the twisted appearance, above described of the peripheral calcigerous tubes, was seen to be due to the number of side branches given off at an acute angle to the main tube. At the apex the tubes radiate, and suddenly diverge to proceed transversely to the sides. In the body of the tooth the main canals are surrounded by concentric lamellæ, traversed by radiating and anastomosing calcigerous tubes, which form a fine network in the interspaces.

The round palatal teeth of the extinct genus *Sphærodus* are anchylosed to a bone of a cellular structure. The body of the tooth consists of coarse tubes, which arise insensibly from the basis, and proceed directly and perpendicularly to the surface of the tooth. The characteristics of these tubes are, first, that they are so closely arranged together, that only one-fourth of their own diameter intervenes between them at their origins. Secondly, they begin immediately to give off short and somewhat coarse branches at very acute angles; these branches increase in number, and the trunks proportionally diminish, until they have traversed two-thirds of the vertical diameter of the tooth; they resolve themselves into fasciculi of extremely minute twigs, which interlace together, and in many places dilate into, or communicate with numerous minute calcigerous cells, and form so dense a layer as to intercept the light, excepting towards the circumference of the tooth, and consequently at the two extremities of the section, where only the structure above described is visible. Several small twigs pass beyond this plexus into the clear enamel-like outer layer of the tooth; in some parts of which traces are perceptible of a plexus of still more minute tubes, escaping the highest magnifying power employed in this examination.

Acrodus nobilis.—The crushing teeth of this extinct genus are composed of two substances, viz. a thin external almost colourless layer, which represents the enamels, and an amber-coloured coarser ivory composing the body of the tooth, and continuous with and passing into the coarse cellular bony basis and support

of the tooth. Microscopic sections of this tooth afford the most beautiful appearances, and, perhaps, the most instructive illustration of the relation of ivory to bone. It consists of groups of coarse and beautifully branched and irregularly wavy tubes imbedded in a clear matrix. The main tubes radiate in all directions, from numerous points or cells which are surrounded by concentric strata, and closely resemble the canals of Havers in true bone: but towards the periphery of the tooth, the ramified tubes are all directed, as in true ivory, at right angles to the superficies; and thus constitute a regular layer of calcigerous tubes, disposed so as to offer the greatest resistance to pressure. This layer is equal in thickness to about one-fifteenth part of the vertical diameter of the thickest part of the tooth. The finest or terminal branches of this peripheral layer of tubes, I have traced in various places into what at first sight appears to be the enamel. Under a magnifying power of 400 diameters, however, this outermost layer is seen to be composed of extremely minute tubes, $\frac{1}{1000}$ line in diameter; they are branched like the coarser tubes of the body of the tooth; irregularly wavy in their course; having a general tendency to an arrangement at right angles to the superficies, but inextricably interwoven, and connected anastomotically together, so as to require a strong light to penetrate even the thinnest section, and render their structure and arrangement visible. The continuation of these finer superficial tubes, with the coarser tubes of the body of the tooth, is best observed by changing the focus, which brings the transiternal tubes at different depths in the section into view. In some parts of the section, a Haversian canal is displayed longitudinally; and the parallel lines of the surrounding concentric strata on each side are exhibited. The canal maintains a general uniform diameter, but slightly dilates where it divides or sends off a cross branch to communicate with the adjoining canals. These canals commence from the large cells of the bone of the base, and pass into the substance of the tooth towards its periphery; communicate by transverse canals, but all ultimately terminate in bundles of the wavy ramified coarse tubes of the body of the tooth. I conclude, that the longitudinal canals, as well as the coarse tubes, were occupied by a vascular pulp in the living animal—and that the fine terminal tubes were the seat of the salts of lime. The silex occupying the longitudinal canals and coarser tubes, has received a dark stain, probably from the colouring matter of the vascular pulp—but the finer tubes, from the want of this difference of colour, are in many parts obscurely visible, if at all. They are discernible in some situations crossing the concentric lamellæ at right angles to the central canal. The chief difference between the appearance presented by the Haversian canals of the tooth of Acrodus, and those in true bone, is in the absence of the cells or corpuscles. These are seen only at the base of the tooth: irregular in size and form, very minute, and appearing like simple granules without radiating lines. The character of the main or coarser tubes of the ivory of the tooth of Acrodus, reposes on their undulating course—their rapid diminution and branching, and the moderately acute angles at which the branches are given off, except at the circumference of the tooth, where they run nearly parallel to each other. They closely resemble the branching of trees. The line of demarcation between the coarser and finer ivory, is formed by a series of small cells of a similar granular appearance to those at the base, in which many of the finer branches of the coarse ivory terminate, and from which the minute tubes of the enamel-like ivory commence. The superficies of the tooth is slightly punctated, but the depressions do not correspond with the mouths of tubes, but with the interspaces of whole groups of the coarser tubes.

Psammodus.—A transverse section of the tooth of this genus presents the appearance, under a moderate magnifying power, as if it were composed of close-set coarse tubes, the areæ of which were thus exposed. Such a section, viewed with a power of 400 diameters, shows that these tubes are surrounded by concentric lamellæ, exactly as the Haversian canals; and that these lamellæ, and the clear interspace, which is generally equal to the thickness of the lamellæ, are permeated by minute irregularly convex tubes, which anastomose in the clear interspace, and open into extremely minute cells, scattered in the same part. A longitudinal section of the same tooth shows the whole course of the canals;

they run nearly perpendicularly to the convex superficies of the tooth, and, consequently, incline outwards at the sides of the section. They lie nearly parallel with each other, with interspaces equal to from 6 to 8 times their own diameter, and branch dichotomously once or twice in their course. Each canal is surrounded by concentric layers of a dark colour, encroaching upon one-third of the interspace, which thus presents two dark streaks and one intermediate light line: the whole of these interspaces is perforated by the irregular wavy, branched, anastomosing calcigerous tubes. The terminations of the canals near the periphery of the tooth are slightly dilated, and give off in every direction calcigerous tubes, corresponding to those in the interspace of the canals. The structure of the tooth of *Psammodus* differs from that of *Acrodus* in the greater number and more parallel course of the canals: their fewer branches, and want of anastomoses; and in the absence of a distinct external enamel-like layer of very fine tubes.

Ptychodus latissimus.—The structure of this tooth has a close affinity to that of *Psammodus*: it is composed of Haversian canals and calcigerous tubes proceeding therefrom. The base of the tooth is composed of close-set and irregular canals, and is very opaque: the canals emerge from this part half way to the grinding surface, to which they proceed perpendicularly. They differ from those of the *Psammodus* in being wider, more close-set, and more branched; the branches being given off at more open angles, and the terminal ones being larger in proportion to the trunks. The papillose surface of the tooth is composed of the terminations of the inextricably interwoven fine calcigerous tubes given off from the terminations of the canals. The interspaces of the canals are also occupied by the same minute anastomosing reticulate tube-work. Numerous minute calcigerous cells are also present in the interspaces. There is a clear substance coating the grinding surface of the tooth, in which neither tubes nor any definite structure could be detected, though, from analogy, such doubtless exist. The darker substance, forming the concentric lamellæ around the canals, occupies the same proportion of their interspace as in the *Psammodus*.

In the summary of this series of observations which Prof. Owen detailed, he observed, that in the human tooth, and similarly highly organized teeth, the analogy of ivory to bone, as to texture, was only seen in the existence and intercommunication of the minute calcigerous tubes and cells; but that there was no trace of medullary or Haversian canals, with their characteristic concentric laminæ, unless the entire tooth were regarded as analogous to a single enlarged Haversian canal; the cavity of the simple pulp representing the medullary cavity of the canal; while the tubes, with the appearance of laminæ occasioned by their undulations, were equivalent to the concentric lamellæ and the calcigerous tubes, which, in bone, traverse these lamellæ, and radiate from the Haversian canal. In the teeth of many of the lower animals, however, and especially that of the extinct *Acrodus*, amongst the cartilaginous fishes, the resemblance of the dental tissue to bone was extended to the existence of the characteristic Haversian canals in great numbers. The presence of these canals was explained by the progress of the development of these bone-like teeth, as observed by Prof. Owen in recent cartilaginous fishes. The large pulp, at the commencement of the formation of the tooth, had exercised its ordinary function in the secretion of a close-set series of calcigerous tubes, having a general direction perpendicular to the surface of the tooth, and closely resembling true ivory. The pulp, then, instead of continuing to form similar tubular ivory, by adding to the extremities of the previously formed tubes, became subdivided, or broken up into numerous processes, to which those forming the three fangs of a human grinder are analogous; but each process here becomes the centre of an active formation of similar branched tubes, radiating in all directions from that centre, and anastomosing by their peripheral branches with those from contiguous centres, or communicating with interposed calcigerous cells: the cavities containing the above subdivisions of the pulp, like the Haversian canals containing the processes of medulla in true bone, have had their area diminished in like manner by the successive formation of a series of concentric lamellæ; traversed, as in true bone, by radiating and minutely ramified calcigerous tubes, communicating with each other and with the minute cells in the interspaces. The resemblance of the pulp

canals of the teeth of *Acrodus* and of the medullary canals of bone, is further exemplified in the existence of lateral communications in teeth; and in function as well as structure they might be regarded as being identical. With reference to the application of the tubular structure of the teeth to the explanation of their pathology, nothing has hitherto been attempted. Prof. Owen observed, that it was a new and fertile field, which would doubtless be replete with interesting results, and might suggest some good practical improvements in dental surgery. Ordinary decay of the teeth commenced, in the majority of instances, immediately beneath the enamel, in the fine ramifications of the peripheral extremities of the tubes, and proceeded in the direction of the main tubes, and, consequently, by the most direct route to the cavity of the pulp. The decayed substance, in some instances, retains the characteristic tubular structure, which is also observable in the animal basis of healthy teeth after the artificial removal of the earthy salts. The soft condition of the decayed portion of a tooth is well known to all dentists; it depends upon the removal of the earthy salts from the containing tubes and cells, in which process the decay of teeth essentially consists. The main object of the dentist seems, therefore, to be, to detect those appearances in the enamel which indicate the commencement of decay; to break away the enamel, whose natural adhesion to the ivory will be found more or less dissolved at the decayed part; to remove the softened portion of the ivory, and fill up the cavity with gold or other substance. Experience proves, what theory cannot account for,—viz. that the progress of the decay is sometimes thus permanently arrested. The calcareous salts are in such cases, as it were, poured out from the extremities of the tubes divided in the operation, and a thin dense layer intervenes between the exposed surface of the ivory and the stopping.

In conclusion, Prof. Owen passed in general review over the structures which he had described in detail, and remarked, that through the endless diversity which the teeth of different animals presented, the general law of the tubular structure could be unequivocally traced; and that the general tendency of the modifications observable in descending from man to the lower classes of vertebrate animals, was a nearer and nearer approximation of the substance of the tooth to that of ordinary bone.

Numerous sections of the teeth described, prepared for microscopic examination, were exhibited to the Committee.

Dr. Reid then gave a brief notice of his researches 'On the quantity of air required for respiration.' He pointed out imperfections in previous experiments, particularly that consisting in the small number of individuals experimented on. A great difficulty existed in attempting accurate conclusions, from the diversity of constitutional temperaments, different states of humidity of the atmosphere, the state of insensible perspiration, and also from the admixture of small quantities of foreign gases; in one instance, the admixture of $\frac{1}{5000}$ part sulphuretted hydrogen, was enough to "knock up" a whole room, producing very serious effects. The degree of light was also an important element, ten per cent. of carbonic acid produces much oppression in the dark; but, if strong light be admitted, it becomes tolerable. Dr. Reid stated, that at St. Petersburgh, he was informed by Sir I. Wily, that the cases of disease on the dark side of an extensive barrack, were in the proportion of three to one, to those on the side exposed to strong light, and this uniformly so for many years. Dr. Reid explained the mode he had adopted to ventilate the House of Commons, which he illustrated by diagrams, and demonstrated by the exhibition of a glazed model of the House. The current of fresh air could be introduced either from below or from above, diffused uniformly, and not by violent draughts, but as it were insensibly, and was under the most exact control as to quantity. The air, when used for the purposes of respiration and combustion, was conveyed away in an opposite direction to that in which it had been introduced. In answer to a question, Dr. Reid said, that he had taken no account of the products of the combustion by which the heat and light were produced, as these products should be omitted in all calculations on the subject. They, if possible, should be carried off so as not to interfere with the immediate supply to each individual. For the purpose of raising the temperature, hot water was used in iron tubes, not raised above 150°. Dr. Reid also stated, in answer

to other questions, that he had not made any particular observations on the modifying influence of different articles of clothing, but he believed they did modify considerably the question, those being preferable that were of a very porous nature, allowing an *insensible* application of the atmosphere to the cutaneous surface.

Dr. Inglis read a paper containing 'Remarks on the skull of Eugene Aram.'

Proofs of the identity of the skull were first adduced. The head was removed from the body, which, according to the sentence, was hung in chains at Knaresborough, by Dr. Hutchinson, of that town, whose widow married a gentleman still living, from whom it passed into the hands of the Rev. Mr. Dalton, from whom Dr. Inglis received it. Mr. Dalton, it appeared, sent it to Spurzheim, who mistook it for a female skull. The paper stated, that the development of the mental faculties as indicated by the skull, agreed in a remarkable manner with the character of Aram as recorded. Strictures on the nature and amount of the evidence by which he was condemned, were brought forward; and these strictures were enforced by the probable character of Aram, as indicated by the skull. A long and desultory conversation ensued, in which the evidence of the identity of the skull, was denied by some members, and acknowledged by others; and the importance and truth of phrenology were alternately asserted, and denounced as chimerical and absurd.

Among the grants agreed to by the Association, were the following:

For continued observations on the sounds of the heart . . .	£ 50
For similar observations on the lungs and bronchiæ	25
For construction of medical acoustic instruments	25
Amount of grants to Medical Section	£ 100

ATHENÆUM.

ON THE SUPPOSED CONTAGIOUS PROPERTY OF YELLOW-FEVER.

BY DR. W. FERGUSSON, INSPECTOR-GENERAL OF ARMY HOSPITALS.

From the United Service Journal.

Mr. Editor,—Several months ago I stated to you that it was my intention to send to the United Service Journal a communication upon the supposed contagious property of yellow-fever in a form that would be adapted to the military reader, and consequently not unsuited to your pages; but, on reconsideration, I began to think that to ask room for a subject so entirely professional would be an abuse of your indulgence, and therefore I gave up the intention. I now resume it because I have seen, in one of your late numbers, that a detachment of the 1st West India Regiment, on arriving at Barbadoes from Trinidad, had been detained in quarantine for more than 30 days on board a very small ship, for fear of introducing the contagion of yellow-fever into that island; and, as I consider such a measure, on the part of the quarantine authorities,* to be one of the most audacious and unwarrantable that has ever been attempted even at Gibraltar, it being well known to all in the least degree acquainted either with black troops or the West Indies, that the negro is incapable of being affected with yellow-fever, consequently of introducing it, I here enter my health-protest against making our troops, whether black or white, the subjects of so wanton an experi-

* At the very time this was going on at Barbadoes the inhabitants of Demerara were busy interdicting its shipping and commerce—VIDE Medical Gazette, No. 13, January 20th, alleging that they (the Barbadians) had introduced yellow-fever into that colony of mud and swamp! What a spectacle—what a treat to the cynic to behold the circle of West India communities all generating yellow-fever during certain unhealthy seasons, yet unable, or unwilling, to perceive that the malarious poison springs from beneath their feet, at the bidding of the quarantine master, denouncing one another as the importers, vexing their mutual commerce, and arraying man against his fellow man with all the hostility of excommunication, all the terrors of insane and selfish panic.

ment, which, through over-crowding, might generate other diseases. I consider that the best form of protest I can adopt will be here transcribing a note that was appended to a paper of mine on Malaria or the Marsh Poison, and read before the Royal Society of Edinburgh in the year 1819. It was not then published, but Dr. James Johnson afterwards made it known to the medical word in an appendix to his valuable work on the diseases of hot climates. It is not likely, however, that it could have met the eye of the military reader, and therefore I now quote it entire:—

"The yellow-fever cannot be a contagious disease, because during its utmost rage it is confined almost exclusively to a particular and very limited class of the inhabitants of the West Indies, viz. the newly arrived, and never affects the coloured people, unless it finds them under the same circumstances, of being newly arrived from a cold climate, although that last class is the most numerous by at least ten to one of the inhabitants, and is besides as liable as the rest of mankind to fall under the influence of every acknowledged contagion, such as typhus fever, small-pox, measles, and scarlatina.

"It cannot be a contagious disease, because even amongst white people it has been proved, from official returns, that the attendants on the sick are less liable to be attacked with fever than those who have never approached the sick bed, and because it has also been proved, in a multiplicity of instances, that the disease is not communicable to the wounded, the surgical sick, the convalescent, or the healthy, though occupying the most contiguous beds in the same hospital.

"It cannot be contagious, because it has also been frequently seen that, when a regiment has been divided into separate detachments, the different divisions have been affected with distinct types of fever, according to the circumstances of temperature and locality of their respective quarters; and, when one of them happened to be stationed in the locality of yellow-fever (which is almost always at or near the level of the sea,) that form of fever was incapable of being conveyed to the other detachments in the higher ranges of country, however frequent and indispensable may have been the necessary communications between them.

"It cannot be contagious, nor anything but a seasoning remittent fever of violent and malignant form, peculiar in a great degree to the newly-arrived, because all who have been debilitated by long residence in hot climates, and would, therefore, be the first to fall under the influence of a new plague, are in a great degree exempt from this form of the disease. And, lastly, it cannot be contagious, nor anything but the product of unwholesome locality and uncommon drought, of season, because, in the warmer countries of Europe and North America, where all the inhabitants are under the same circumstances as the newly-arrived in the West Indies from the effect of the preceding winter, it has never been seen, except in some particularly low situations, where the heat has been steadily, for a considerable time previously, of the West India temperature; nor retained in them after that degree of heat has been changed by the change of season, nor transported from them even during its utmost rage to other localities in the closest vicinities, if of higher elevation, of better ventilation, and cooler atmosphere.

"The foregoing are not vague assertions, but matters of fact that have been verified and recorded by the official returns of our armies in the West Indies for the last twenty-five years.

"As in every epidemic where multitudes are in the course of being affected, every supposable degree of communication must of necessity be constantly taking place amongst the inhabitants of a crowded camp or city; all or any of the believers in contagion may have their creed confirmed in any manner they please, from the dead or the living, by the passing events of every day; and it is only by reference to such facts as the above that the delusion can be cured, and that the observer can be brought to distinguish clearly between the agency of epidemic and contagious influence. Those, however, who have only *read* the reports of panic from the theatre of the epidemic will seldom be cured of the delusion; no more will those who have seen the disease, but have fled in

affright from its supposed contagion; but all who are compelled to remain within its epidemic current, and witness the progress of its successive invasions through the recurrence of sickly seasons, must infallibly have their eyes opened to its real nature, if they be at all capable of distinguishing truth from error.

"In opposition to the fact that has been so often verified in every colony of the West Indies, that the sailors of merchant-ships landed with yellow-fever never infected the crowded, unwholesome suburb lodging-houses, to which alone they had access, it has been said, with much feasibility, to have been imported in ships; but this is another delusion arising from the well-known fact that newly-arrived strangers are generally the immediate and most striking victims of every epidemic; and hence our most thoughtless intemperate sailors, when at these dangerous times they are thrown into the unwholesome anchorages of the West Indies, are not only the first to suffer from the epidemic in its course, or about to begin, but they are denounced as the importers by the prejudiced vulgar; and the accusation is loudly re-echoed, even among the better informed, by all who wish to make themselves believe that pestilence cannot be a native product of their own habitations. The incomprehensible punctuality of ships regularly arriving at some particular seaports of Spain and North America fraught with the pestilence of yellow-fever, at the precise stage and period, and at no other, of those hot and dry seasons that assimilate them to the unwholesomest of the West India towns, can therefore be no more than a fiction of prejudice—a delusion of panic terror."

I should hope the above will be deemed conclusive in regard to the contagion of yellow-fever, and by demonstrating the true nature of the disease, rescue many a gallant spirit from the terrors of an unreal phantom, which would otherwise haunt him under the form of the sick soldier in hospital—the companion of his mess-table—or the members of his domestic household when taken with illness. The real terrors that accompany the march of such a destroyer are sufficiently formidable in themselves without this cruel aggravation—the most anti-social and unchristian, to judge from its effects, that could be inflicted upon him; but once bring him to understand the true nature of his position in regard to the disease, and there can be little reason to doubt that he would meet it with the firmness becoming his natural character, in the assured confidence that the danger would pass away in the course of the season, or that he would soon become so well seasoned and habituated to the climate as to be independent of its influence.

So much for the West Indies, where the contagion of fever can scarcely be made to exist under any form, and where, if it could be made to exist, the quarantine authorities, by cooping up men in quarantine in the manner they are represented to have done, would be the most likely to produce it; but in our own climates we have contagions both essential and factitious, which at times will devastate our military quarters, and of which it may be well that every military, officer, upon whom a command may devolve, should possess a competent knowledge. These essential contagions such as small-pox, scarlet-fever, &c., which can be carried to any part of the world—are those that on the reception of a particle into the body contaminate the whole frame, just as surely as the poison-drop from the fang of the viper will produce its specific effects: against these it is impossible that any purity of atmosphere, or precautions of discipline, can avail—for, as long as approach to the diseased is permitted, there can be no safety but in segregation. The other contagions, of which all febrile diseases may be made susceptible, are those of accumulation and quantity. Thus, for example, crowd a number of sick into an ill-aired apartment, and it is probable that a highly-contagious atmosphere will speedily be generated most dangerous to all who enter it; but select any one—the very worst of the sick—and place him, after being cleansed and purified, in a well-ventilated room, it is equally probable that the closest approach will fail to communicate the infection; yet a single patient, in a narrow low roofed cell, will as effectually vitiate the air and generate a contagious atmosphere as a crowd in the largest hospital.

It is, then, that the atmosphere of the crowd is contagious and not the person

of any individual, but this, nevertheless, is the contagion which so certainly adheres to all European armies, during winter campaigns more especially, and commits the most terrible devastations. The patient while purified as above ceases to be personally contagious, but, unless that purification be continued throughout the whole illness, his clothes, even after recovery, will be filled with it, and he will have impregnated every absorbing substance, whether body-coverings, bedding, or furniture, with the accumulated poison. It was in this way that the army of France, on returning from the campaign of Moscow, diffused the infection of typhus-fever throughout the whole kingdom. It was in this way that the native armies of Spain—sometimes, too, of Portugal—in the earlier part of the Peninsular war, became moving clouds of the disease; and it is in this way, even now amongst ourselves, that the wandering mendicants of Ireland, with unchanged clothes, after recovery, leave infection behind them amongst the families where they may have obtained shelter; and this would be a terrible state of things if we had not at command means of disinfection so simple, easy, practicable, and efficacious, that without our knowledge we are often saved by them even in spite of ourselves, and the mystifications that have been played off upon the fears and ignorance of the people under the form of fumigations, which, because they smelled strong and made the bystanders cough, have been supposed to possess great powers of disinfection. The muriatic acid, disengaged under a gaseous form, is the basis of all these last; but, as we know nothing of the nature of those vapours that communicate contagious diseases, whether they be acid, alkaline, or anything else, it is an equal chance that by using another strong acid we may be actually adding to, instead of diminishing, their virulence. This at least I know, that it was the business of my office for a long course of years to cause their use to be enforced in barracks, ships, and hospitals, and I can declare that I never saw the smallest benefit derived from them, nor the course of disease arrested; while the disinfectants to which I have alluded promptly and immediately served the purpose, These are fire, water, light, and air—with one alteration the old elements of our forefathers,—and they are ever at hand, ever applicable.

The first of these—fire, or rather its product caloric (heat,)—is immediately all-sufficient for every purpose of disinfection. Dr. Henry, of Manchester, demonstrated by positive experiment that the matter of small-pox, cow-pox, and scarlet-fever, was utterly deprived of all infecting quality on being exposed for a few hours to a heat of 140° of Fahrenheit; and these, as I have said before, are amongst the essential concentrated contagions. With the gaseous factitious ones, such as typhus-fever, there is every reason to believe that a much inferior degree of heat—one not greater than the ordinary temperature of the tropics—would suffice, for that disease has never yet, amongst all the infected transports that left or shores, been made to cross the tropic of Cancer, nor has the plague of the Levant ever been carried into the equatorial regions.* The process, then, is one of the simplest, for a portable iron stove filled with ignited charcoal, and left to burn for any length of time that will raise the necessary heat in the sick apartment, must infallibly disinfect it.† Through such a process as this the Russian peasant, possibly the nastiest, personally, in Europe, never has typhus

* The infection of the plague itself is known to cease in Egypt (vide Assalini) on the advent of the Midsummer heats; and to proclaim that the yellow-fever is a contagious disease, while it is the product of the disinfecting principle itself—of that degree of atmospheric heat with which infection is incompatible, and the contagion of fever cannot exist—is, therefore, as unphilosophic an assumption as ever was imposed upon the fears and credulity of the people. The most crowded ship that ever sailed from the land of rapine and crime has never yet succeeded in generating infectious fever amongst the suffocating cargo, and the special law of retribution, through which, if such a disease could arise amidst the naked victims, their white oppressors would so surely be destroyed, seems here to be superseded by a mightier general law of Divine wisdom, which, by ever furnishing the disinfecting agent, has affixed its veto to the extension of contagious fever in the regions of the torrid zone.

† Charcoal is preferred merely because it is free from the nuisance of smoke, which, under the shape of any kind of fumigation, is ever superfluous and unnecessary, unless to correct bad smells.

fever, for he heats the stove of his cabin to an inconceivable degree, and uniformly takes a vapour-bath of the hottest kind once a-week or oftener. He, in fact, lives under a course of disinfection. Light is another disinfectant equally sure, but it is not adapted for military purposes, its operation being essentially slow, and the requisite time to produce the effect indefinite. The power, however, which, without the intervention of air, can in the closest-stopped bottles deprive Cayenne pepper of its sting, render the strongest prussic acid as mild as salad oil, and convert our most potent medicinal powders into so much powder of post, is not to be doubted. Nearly the same may be said of air and water, and all these three last are, through the beneficence of the Creator, in the medium of our common atmosphere, constantly operating unseen, but sure, to destory the epidemic contagions which would otherwise in numerical progression go on to extirpate the human race. But to return to the practical application in the hands of the military officer. Let him be at the pains to see that the stoves are lighted as above—that boiling water has been applied to every article to which it can be made applicable—that the walls have been whitewashed as soon as the sick are removed, and that quick-lime has been mixed in to correct all offensive nuisances,* —and he will have done all that the philosophy of the schools can effect in removing the dangers of contagion. He cannot, of course, by such means foreclose the fresh supplies of infection which the living bodies of the sick must be constantly giving out; but, whenever these may be dead or removed, he may rest assured that they will leave no infection behind them.

There is another superstitious fear connected with contagion from which it may be well to free the military mind—and that is the dread of infection from the dead body. But contagion is a living vapour, and the cold dead carcase can have none to give out. Should an inoculable matter be left upon its surface, such as that of small-pox, or the crust that accompanies scarlet-fever, it is certain that the first, and not impossibly the last, may be *sublimated* from it, either through the heat of the weather, or the heat generated in the process of putrefaction, so as, through the aid of a current of air, to infect the bystanders ; but with regard to all other diseases it is impossible, and the proof is to be found at the dissecting-rooms of every medical school in Europe, where, from time immemorial, have been received, without question or examination, the dead of every disease, without ever communicating infection, except in the case of small-pox, either to the student that dissected them, or to the resurrection-men in the exercise of their nefarious trade †

In the foregoing may be traced one of those beautiful ordinances of the Deity, through which man has been placed on this globe of earth, with the evident intention of perfecting his being here below, through the progress of mind, and the advances of civilization. He has been constituted a gregarious animal, but to that gregariousness have been affixed limits, and, when these are contemned, the caveat is promptly made to appear under the form of contagious disease. All other animals are furnished by nature with clothing to their bodies : man alone has been left to find his own, and to discover, through the operation of that reason with which he has been gifted that, if he neglect the decencies of supply and change, he will be visited in the first instance with the most revolting of the plagues of Egypt, and, in the course of time, generate the worst contagions that can be inflicted upon himself or communicated to his fellow-men. Heaven sends diseases, it is true, but the channels of their transmission are our own abuse or neglect of the very means that have been given to enhance our well being and prolong our lives. I address these observations to the military officer, becuse it is upon masses of men that their truth can be best ascertained, and the means of

* If quick-lime cannot be procured, common vinegar, and that in no great quantity (about a quart at a time), thrown into the necessaries, will neutralise the compound ammoniated gases which, in hot climates more especially, add such insupportable pungency to the stench.

† The dissection wounds that have proved so fatal to the operators have no connexion with the diseases of which the subjects have died. They are all of the same kind, proceeding from a peculiar poison that is generated in the principal cavities of the dead human body shortly after death, and are always the result of a chance inoculation.

preservation be best employed,—where discipline can be made available to save, and its neglect to entail the greatest calamities.

Wm. Fergusson.

Note.—The animal poison that has been generated through accumulation in the unchanged coverings of the human body, has often proved as fatal and deadly as the worst malaria of the fens. The magistrate on the bench has been infected by the criminal standing before him; and at the celebrated Black Assizes at Oxford, so called from their fatality—the no-less-celebrated Old Baily Sessions in 1750, and others—nearly the whole Court, including the jury, were struck with gaol fever, through the circumstance of an open window behind the dock where the prisoners were placed sending a current of air from them upon the assembled people; and not the least wonderful part of this remarkable occurrence was the fact that the prisoners themselves had not at the time the actual disease they were thus communicating with such fatal effect. They were not then in fever; because their constitutions had been so withered and benumbed through the long-continued application of the poison which they carried about them, as to be incapable of throwing it off by the channel which nature had decreed of acute disease; resembling in this respect the inhabitant of the swamp, who, although never healthy, and destined certainly to an early grave, will often show nothing of marsh fever until he be removed to a healthy country, and then, if he has any powers of constitution left, it will most likely break out upon him; and so will the miserable gaol criminal, when restored to purer air and better clothing, in all probability throw out the fever which he had long imbibed, but could not assume.

During the campaigns in Holland, last war, it was often remarked that those who had escaped the ague of its worst fens were frequently taken with it after being restored to the healthy atmosphere of their own country; and how frequently has it been seen that soldiers, during active service in the most unhealthy districts, feel nothing of their malaria until placed in quarters of seeming safety, when all the specific effects of the marsh poison were sure to show themselves! But even these are minor evils compared with the dreadful fact of the worst infectious disease being capable of communication from a source that gives no ostensible evidence nor warning of its existence. I know that this last observation applies to times gone by, rather than to our own; but even now, military officers, when dealing with prisoners of war or military criminals long confined, ought to be aware of the danger that may await them from too near or incautious an approach. The burning of a few handsful of charcoal, with the aid of clean linen, will certainly disinfect the most saturated lazar that ever came out of a pest-house; but until that ceremony, or an equivalent to it, such as a hot-bath, be performed, no one can answer for his being otherwise than dangerous.

Windsor, April, 1838. W. F.

WEST INDIES.—INFORMATION FOR INVALIDS.

The particulars which follow, are derived from two of our most respectable and useful newspapers. The article on St. Croix (Santa Cruz) was written two years ago;—that on Havana is of recent date.

From the New York Commercial Advertiser.

ST. CROIX.

Messrs. Editors:—I have had repeated inquiries addressed to me, in relation to the beautiful island of St. Croix, where I passed the last winter, and from which some letters of mine were published in your valuable paper; and it has been suggested to me, that I might render a useful service by sending you another letter, giving such information as invalids, about proceeding to it for health, would generally wish to obtain. It gives me pleasure to comply with

the suggestion, although I have many cares, which forbid me to give so much time to the matter, as might be desirable. I passed a delightful winter in St. Croix, and I believe few spots on the face of the earth, so easily accessible, offer so many solid advantages and comforts to the invalid. The temperature is very uniform—there are no stormy days during the winter months, and I believe there will not ordinarily occur three days from November to May, the time when invalids usually take their departure, in which the most delicate person would be prevented by the weather from taking free exercise in the open air. And then the roads,—we know nothing like them in this country,—so smooth, so firm. It is a luxury to roll over them. They are all Macadamized, and in the towns, are kept with the utmost neatness, as in fact they are all over the island. But I need not repeat what I wrote to you last winter; suffice it to say, that what I then wrote, is plain matter of fact. The balmy air, the rides, most agreeable from fine roads and fine scenery, and the excellent fruits, &c. of the island, make a winter's residence there delicious—much too pleasant in the recollection, to one who has the near prospect before him of a northern winter.

Passports.—I should recommend to persons going there to take passports from the Secretary of State's office. It is not absolutely necessary; but if one wishes to visit St. Thomas, or go to any other island, it will save some expense and the trouble of taking a new passport from the police office. At West End the very obliging Judge Andresen, master of the police, will take his dollar and endorse an American passport for any person who is leaving the island. If one has no American passport, he must take out a Danish one, and pay two and a-half dollars to go to St. Thomas, and on leaving the island for a foreign port, about ten. At Bass End (Bassin) there is not quite so much respect for the powers at Washington.

Frequently persons are inclined to visit other islands, either to the windward, by the steamers from St. Thomas, or the Spanish islands of Porto Rico and Cuba, on the way home. Passports may then become matters of more urgent necessity.

Money.—Letters of credit will enable persons to provide themselves with cash at St. Croix. But in the trade with St. Croix our merchants are obliged to make the greater part of their purchases with cash; and bills on New York are at a considerable discount—last spring not much less than ten per cent. American half-dollars are perfectly current there, as are all the silver coins in use among us, as large as a quarter.

Clothing.—The weather at St. Croix is uniform, and as warm as our ordinary summer weather; and a person in health may wear such clothes as he does here in summer; but the continued warmth opens the pores—to use a common way of speaking—and in the open West India houses it is somewhat difficult to avoid draughts. Thin flannels should therefore be worn next the skin; and the upper garments, while they should not be so thick and heavy as to heat a person, should afford a pretty good defence against sudden changes. Gentlemen on the island wear very commonly thin pantaloons, but almost always cloth coats.—A linen jacket is, however, sometimes comfortable, and a frock coat of thin cassimere or merino, would be a very suitable garment for common use. Hair stocks are the most proper covering for the neck. Gentlemen are sometimes advised there to wear flannel about the neck, especially if they have bronchitis, in order to prevent sudden chills of the parts. The practice of so closely covering the throat is now condemned by our best physicians, and a common stock and flannel subject the neck to profuse perspiration, render the parts tender, and expose to colds. It is safer to discard the flannel, and leave the neck as free as may be. In a climate so uniformly warm, a northerner is liable to get into a profuse perspiration and violent heats, upon using any vigorous exercise, and these are unsafe. They will lead to colds, if they are not followed by more serious consequences. He will be frequently admonished, as I often was, while walking at my ordinary rate, not to walk too fast. These observations may serve in some manner to guide the invalid, and I am induced to touch upon this topic, because I received quite wrong impressions of what I should want, from some who had lived there in sound health.

Under this topic let me just add, that coloured spectacles, green or grey, will be quite useful to defend the eyes against the excessive whiteness of the streets at the west end of the island.

Means of Exercise.—Ponies may be hired for twelve to sixteen dollars a month, for the saddle. For this they are kept, and brought to the door at such hours as the rider chooses. Some of them are spirited and remarkably easy gaited animals. Horses and gigs, and other carriages may be hired by the month, at rates which are not very extravagant. There are now carriages in considerable number and variety upon the island, which temporary residents can hire,—for those which are carried out by invalids are always sold there when they leave the island.

The number of invalids resorting to St. Croix appears to be increasing, and it would be doubtful whether one who should go late to the island, would at once find a carriage to suit him. Changes however are often taking place.

Ponies may be had in abundance; and it is quite unnecessary for those who wish for horseback exercise only, to take horses with them. It costs to carry a horse out, and to get him through the customs, about $100—it costs $16 a month for his keeping, while there, (i. e. the price at which a good poney may be hired,) and when his owner leaves the island, he must sell him for about his cost in New York.

Boarding Houses.—When I approached St. Croix last winter, I was apprehensive that I should find it difficult to get good accommodations. The same apprehension may be felt, as it has been by others. There is no reason for it. Many more might have been accommodated than were there last winter; and I was told before I left the island, that many more houses would be open this coming winter. The price of board last winter was $10. It was supposed that some houses would be opened at lower rates.

The boarding houses last winter at West End were—Mrs. Boyle's, Mrs. Codwise's, Mrs. Rogers's, Mr. Heyliger's, Mr. Westcot's, Miss Rogers's—and at the beautiful estate, Prosperity, Mrs. Van Brakle's, about half a mile north of the town, and at the estate, Stoney Ground, Mrs. Smith's, a mile south.

At Bass End (Bassin) Mrs. Hansen's, Mrs. Hans Cardan's; Miss Gilbert's in the town, and, at a short distance from the town, Mr. Stringham's, at the estate called Richmond. The accommodations, the attention and the fare, at all of them, I believe, are excellent.

Medical Advice.—It will of course be interesting to the invalid to know, that he can have excellent medical advice. There are many physicians there, who have passed through the schools of Edinburgh and Copenhagen, and are well worthy of confidence. I cannot forbear mentioning one who is remarkable, though not for that only, as being the oldest physician in the West Indies. I refer to Dr. Stedman of West End. He has practiced in the island more than fifty years, and still possesses uncommon vigour and vivacity, both intellectual and physical. We were indebted to him for much good professional advice, and for enlivening many of our evenings with his brilliant conversation, and curious anecdotes of the olden times, both of his native country, Scotland, and his adopted one, St. Croix. He was the pupil of Cullen, and the fellow student at Edinburgh with M'Intosh, the late Dr. Mitchell, of your city, and many others, whose names have since been well known.

Society.—The inhabitants are very hospitable, and are disposed to be attentive to strangers. Since the island has become so much a place of resort, it is obvious that they cannot each be attentive to every body, and letters of introduction are more necessary to insure their acquaintance and attention, than formerly. Proper introductions will secure the kindest attentions—sometimes almost more than one, who has much delicacy on such points, feeling that he probably will never be able to repay them, will be willing to receive. But this feeling is often greatly relieved by the very generous pleasure too apparent to be mistaken, with which they are rendered. It is proper to remark here, that his excellency the governor-general, is disposed to treat strangers with great courtesy, and that he is gratified by an early call. Strangers may be introduced to him at the government house, by gentlemen of the island.

Letters from Home.—Intercourse with New York direct, and by the way of St. Thomas, is very frequent. Letters may be sent and received as often as once in ten days, or at most a fortnight—often more frequently; and the merchants of the island, and of St. Thomas are very obliging in receiving and forwarding letters and packages.

I believe, Messrs. Editors, that the above remarks contain answers to the most important inquiries which valetudinarians going to the West Indies would wish to make.

I will add, however, that the language spoken is English; and that there is at each end of the island an English church.

I use my former signature for the last time, and hope not much longer to be

VALETUDINARIUS.

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From the Newark Sentinel.

HAVANA, *October*, 1838.

You ask me to state the comparative advantages of the climate of Cuba and the climate of the southern coast of Florida, for invalids from the north. I do not know that my acquaintance with the particularities of atmosphere, required in different stages of disease, is such as would enable me to decide for you which would be preferable; but I will give you with pleasure the information I have, together with my opinions in relation to the subject, to which you may give what weight you think proper.

Much, very much, depends upon the temperament of the invalid whatever climate he may seek. If accustomed to seeing many faces, or to enjoying the society of a large circle of acquaintances, it will not do for him to seek a place where he cannot find variety or associates that may relieve the load which absence from his home and friends too often casts upon his mind; and, on the other hand, one who has led a retired life, will be little contented amid a gay or busy population, when sickness shall have incapacitated him for any change of habits or the formation of new attachments.

There are, consequently, other considerations than those of climate which should ever influence the invalid in his selection of a place of resort. Above all, let him not wait until disease is too firmly seated in his system: for no where, *then*, can he find such a situation as will counterbalance the loss of those alleviating circumstances which are always found at *home*, however humble that home may be. Sympathy, it is true, may be found even in the land of strangers, and indeed, it seems as if the sunny skies of the south fostered and strengthened its genial influences, to a greater degree than with us, for the benefit of the diseased wanderer; yet trying are the hours that roll away without renovated health. There are numberless attentions which money cannot purchase—there are comforts that must necessarily be surrendered; and for the absence of friends and relatives, when months and days are numbered, nothing else can compensate.

Many, however, have I known, whom a residence in Cuba, or on the southern shores of Florida, for one or two winters, has entirely relieved; and many more, whose years have been prolonged far beyond human calculation, by yearly seeking those balmy climates ere the cold blasts of a northern winter could affect their feeble frames.

From the extent of the island the climate of Cuba is necessarily different in different locations, according as they are more or less near the ocean or the mountains of the interior—the high plains or the low lands on the rivers; but I consider it in almost every part to possess great salubrity for from six to nine months of the year. I have no meteorological table at hand, but the fact, which I can state from my own knowledge, that there are few days during the winter months in which the summer apparel of the north is not the most comfortable to a person in health, may give some idea of the temperature usually experienced during the portion of the year in which the island becomes a place of resort. The few days alluded to, not more than twenty or thirty in the course of the winter, are colder from the prevalence of "Northers," which sometimes are ex-

tremely piercing, although the mercury may indicate a temperature of 60 degrees. The nearer you approach the mountains the colder it becomes, of course; and there are some places in the interior where frost is not an unusual attendant on the most severe weather.

The air of the country being the most salubrious, the invalid should consequently seek it; and a residence upon a coffee plantation, near enough to one of sugar to render the juice of the cane available, should be obtained if possible; but there is a difficulty in the way, not always to be surmounted. The want of the necessary acquaintances—a dislike to give trouble—or other circumstances, may prevent an invalid from availing himself of the hospitality of a planter;—and it is seldom that comfortable circumstances can be procured, except in the immediate vicinity of the cities. The public houses within the walls rarely offer such comforts as the sick desire, and consequently, if a residence in the country cannot be obtained, a location near Havana or Matanzas is the next best;—and to those who like the stir and bustle of a city such a situation may be the most desirable.

The climate of the Florida Reef is very similar to that of Havana; but the houses not being of the same substantial character, or so compactly built, the "Northers" are more severely felt. The mean temperature of the year is about 76½ degrees;—and of that part between October and May, about 71 degrees. The lowest temperature ever known at Key West was during the severe winter of 1835-'36, when the mercury fell to 40 degrees; the highest observed temperature has been 90 degrees—making the range from one extreme to the other, only 46; but, generally speaking, the range is *not* 40 degrees, in any one year: the maximum temperature during the winter being about 80 degrees, and the minimum 50 degrees;—but it is seldom below 68 or 70 during the day. (You will find meteorological tables in the American Almanac for several years back.) Frost, of course, is never known;—an advantage enjoyed in no other section of country in the Western States; and when the inhabitants shall have secured around them more of the minor comforts and conveniences of society, I do not think that a resort to any foreign land will ever be desired for the invalid, merely on account of his health; and as to the *necessity* for such a resort, I do not think that for the majority of cases, it exists *now*, although many of the comforts of an older country may not be obtained at Key West. At present there are only two settlements on the whole coast of South Florida, that an invalid can visit: one at Indian Key, a small island of only a surface of twelve acres—and Key West.

The former place has been much written about in the papers for the last year or two, by persons whose influence has been obtained by the *single proprietor* of the island, whose only hope of remuneration for the expense foolishly incurred in the erection of buildings, &c., depends upon its being made a "port of entry," towards which object (Congress having, as yet, looked upon the measure, very properly, as one opening a door to great fraud and speculation,) all the efforts of its friends are directed. It is consequently made to assume a most important aspect in every point of view in which they can bring it before the public. All that is said of its climate is true, and will apply to the climate of the whole coast; but most of the statements about "improvements," "bridges," "cottages," "accommodations for invalids," "business," &c., &c., are gross exaggerations. There *was* a hotel opened there a year or two ago; but for some months past the proprietor has been at Key West, there being no custom at Indian Key to warrant a continuance there; for at the present time there are only *three families* residing on the island, (last spring there were only *two*,) and the only transient persons who visit it are seamen attached to the wrecking and fishing vessels on the coast.

Key West possesses a population during the winter months of eight or nine hundred; and the society, for the size of the place, is very good. It has a considerable commerce, and is a stopping place for almost all vessels bound to and from Apalachicola, St. Josephs and St. Marks, which afford frequent communication with New York; and a regular packet schooner, carrying the U. S. mail, runs from Charleston, S. C., on the 15th of each month. There is a Protestant

Episcopal missionary stationed there—so that religious services are enjoyed. It is probable that a church will be erected the coming winter. The place is also fortunate in possessing a physician of high standing in his profession.

I should presume that the climate of the Florida reef would be found as beneficial as that of Cuba, in a majority of cases; but probably an invalid would enjoy himself more in Cuba, as that island possesses the attraction of an extensive surface, over which to roam, if strength is enjoyed sufficiently to bear the fatigue; and greater variety is every where met with. These are advantages which many invalids would not willingly forego, although the enjoyment of them must necessarily be attended with additional expense compared with that which attends a residence at Key West. A greater variety of meats and vegetables is also an advantage which Cuba has over Key West—the market of the latter place being extremely limited. As a set-off to these and perhaps others, there is the disadvantage of being in a foreign land—with the consequent restricted intercourse with its inhabitants: for there is certainly some pleasure to be derived by the invalid from being among his own countrymen. Fruit, so abundant in Cuba, is procured fresh, and in quantities, at Key West; and the intercourse with Havana is so frequent, that visits may be paid to Cuba without any other inconvenience than being one night on board a small vessel: the distance being run generally during the night, vessels leaving one place in the evening, and arriving at the other the next morning.

The health of Key West, the morality of its inhabitants, and indeed, every thing appertaining to it, has been much calumniated by persons who are inimical to its prosperity—who have never seen it—or who have too slight an acquaintance with it to form a correct judgment; and I venture to say, that there is not a place in the United States against which the prejudices of the public are more unfavourably excited, or more unjustly. Its bad name was first caused by the sickness which prevailed among the forces of Com. Porter, in 1823 and 4—which the Commodore has publicly stated, was not attributable to the place at all; but to this day, if an individual dies there—no matter what the circumstances be—he falls "a victim to the climate of Key West."

THE EXPERIMENTAL ASCENT OF THE NASSAU BALLOON.

MR. GREEN'S NARRATIVE.

My ascent on Tuesday last, from Vauxhall Gardens, in the great Nassau balloon, was in company with Mr. Edward Spencer and Mr. Rush, of Elsenham hall, Essex, who had intimated to me his desire to make an ascent of great elevation, to ascertain the greatest altitude that could with safety be attained with three persons in the car; and further, to ascertain the changes of temperature that would take place at different elevations, as well as the variations of the currents of air; and, finally, to establish the important fact as to whether the same difficulties existed with regard to respiration in a very rarified atmosphere, by persons ascending with a balloon to any great altitude, as have been felt and described by persons who have ascended lofty mountains.

Ever since I constructed the Nassau balloon I have had a strong desire to set these questions at rest, and I therefore feel great pleasure in being able to communicate to the public, through the medium of your journal, the result of our experiments, extracted from our minutes out of Mr. Rush's note-book, and which were made by him at short intervals, during the progress of our ascent and descent.

We left the earth at 25 minutes before 7 P. M., with two barometers, standing each at 30 inches. One of these instruments, as well as a thermometer, was furnished by Mr. Rush, constructed on the most accurate principles, and made expressly for the purpose by Mr. Jones, optician, of Charing cross. The thermometer stood at 66 degrees of Fahrenheit. During our ascent the barometer and thermometer at our different elevations varied thus:

Barometer.	Thermometer.
30 inches.	66 degrees.
23	57
21	33
19	46
18	42
17	39
16	35
15	25
Greatest alt. 14.70	25

On our first rising from the Gardens we took a north-westerly direction, and continued that course until we arrived over Vauxhall bridge, when we were at an elevation of 2,500 feet. The line then changed to the north, and shortly after to north-east. All the time we were passing over the metropolis we discharged ballast, and rose in proportion. We then pursued our journey, passing over Dalston, Lea bridge and Epping, in which direction we continued with but little elevation, leaving Dunmow, in Essex, on our left. At this period we had attained our greatest altitude—namely, 19,335 feet, or three and a-half miles and 855 feet. It was now that for the first time our view of the earth was intercepted by a stratum of cloud, which was apparently somewhere about 6,000 feet below us. In consequence of the vast quantity of ballast that we continued to discharge after having cleared the metropolis, our ascent became very rapid, and from the great expansion of the inflating power, the gas rushed out from the lower valve in considerable torrents. The velocity of our upward progress caused the balloon and car to rotate in a spiral motion on its axis with astonishing rapidity; (a similar operation takes place, although not to so great an extent, on all occasions of a rapid ascent or descent.) During our ascension, we at different periods threw overboard about 1,200 pounds of ballast, reserving only 100 pounds by which to regulate our descent.

Prior to commencing our descent, Mr. Rush, our wine-glasses being purposely charged, proposed the "health of our most gracious Sovereign, Queen Victoria." The toast was drunk with great fervour and sincerity, and we followed it by raising three cheers, and "one cheer more" in honour of the deed. We lost no time in drinking the "health of her Royal Highness the Duchess of Kent, who gave birth to our gracious Queen." Mr. Rush then once more rose, and proposed the "health of the greatest commander on earth, his Grace the Duke of Wellington." This toast, like its predecessors, was responded to with alacrity, and was accompanied with the usual honours. Having redeposited our bottle and glasses, we discovered that the balloon was descending.

Our course then veered to the north, over Thaxted. We were now under the influence of the same current as that which governed our progress immediately on quitting *terra firma*, and the balloon was propelled over Debden, where we effected our descent, at five minutes after eight o'clock, having accomplished the voyage in one hour and thirty minutes. We reached the earth in a field near Rowney-woon, in the parish of Debden, a distance of 47 miles from Vauxhall Gardens, three miles south of Saffron Walden, and only five miles from the residence of our fellow voyager, Mr. Rush, to whose house we at once proceeded, and after having partaken of his hospitality, passed the night.

It will be perceived by the table I have given above, that at our greatest altitude the mercury in the barometer had fallen to 14.70 inches: giving an elevation of 19,335 feet. Since my arrival in London the matter has undergone a calculation by Mr. Jones, the optician, from which the following results have been arrived at:—

Barometer at starting, - - -	30	
Do. at greatest elevation, - -	14.70	
Thermometer at starting, - - -	66	
Do. at greatest elevation, -	25	
Approximate feet, - - - - - -		18,826
Allowance for temperature, - - - - -		509
Total elevation, - - - -		19,335

—or three miles and three-quarters, minus 465 feet.

During our descent, when at 1,200 feet from the earth, we encountered a heavy fall of snow, which lasted for half an hour, accompanied with a sudden and very great reduction of temperature, the thermometer dropping to 22 degrees, or ten degrees below the freezing point. The mercury in the barometer at this moment had risen to 19 inches. By a comparison of this state of the two glasses with that which they presented as we went up, it will be seen that at the same elevation, whilst the barometer was at 19 and the thermometer at 46, the former retained its position, but the latter had fallen to 22°: thereby showing a reduction of temperature in the course of one hour, at the same elevation, of 24 degrees. I mention this circumstance for the purpose of directing the attention of the scientific world to those local and sudden changes of temperature which in the course of my numerous ascents I have often experienced.

I have further to observe, that although the air near the earth was in a tranquil state, the current by which the balloon was principally operated upon (namely, south by west,) must have been moving at the rate of at least sixty miles an hour: for, notwithstanding the rapidity of our ascent and descent, which necessarily formed a powerful resistance to this horizontal current, we travelled at an average speed of thirty miles per hour.

When at an elevation of 15,000 feet, we discerned in the south-east an extremely vivid flash of lightning.

With reference to the fact of there being a supposed natural difficulty of respiration at great altitudes above the earth's surface, as mentioned in the works of Humboldt and other celebrated travellers, by whom it has been painfully experienced in their ascents of high mountains, I am inclined, from the circumstances of an opposite result having been produced upon ourselves on this occasion, to imagine that the fatigue and depression of the muscular powers produced by the accomplishment of their journey, must alone have led to such an end. Mr. Rush, Mr. Spencer, and myself, at no moment, even when at our greatest elevation, laboured under the slightest inconvenience in respect to a difficulty of respiration. We breathed with the utmost ease, and as freely as when walking on the earth's surface.

NEW MODE OF EXHIBITING COPAIVA.

BY CHARLES EVANS.

I have just seen the number of your journal for June 16, in which is an article headed, "New Method of preparing Copaiva for Administration."

New it may be to the profession generally, and probably is so altogether as regards the exact mode there recommended. But there are others as well as myself who have exhibited copaiva for some years past in a form very similar, quite as efficacious, and attended with much less trouble.

The following is the method I have generally adopted, first premising that the article used must be *good* copaiva, *not* such an article as many druggists supply under that name:—Put any weight of copaiva into a vessel which will admit of its being conveniently stirred, and gradually add to it, constantly stirring until they are thoroughly incorporated, one-sixteenth of its weight of pure calcined magnesia; set it by for a few days, and it will then be found of sufficient consistence to admit of its being formed into pills or boluses of any shape. When about to use it, wet the hands, spatula, and slab, with water, which will prevent the mass adhering to either: form half-drachm oval boluses; then cut a slip of wafer-paper, such as confectioners use for baking biscuits on; moisten it with water, and roll the bolus in it.

Before taking one, place it in water for a minute or so, for the purpose of softening the envelope, and it will then slip down the œsophagus much easier than a small pill, and leave no trace behind it in the shape of a disagreeable taste: in fact the dose is perfectly insipid, and in this form it seems to be more grateful to the stomach, for I never have observed that loathing of the medicine and food which so frequently occurs during the ordinary exhibition of this medicine.—*Med. Gaz.*

ON THE FOREIGN BODIES WHICH SERVE AS NUCLEI FOR URINARY CALCULI.

BY M. CIVIALE.

At a late meeting of the Academy of Sciences, M. Civiale made some observations on certain modes of formation of calculi, an abstract of which cannot fail to be interesting.

An account of the nuclei which occasionally serve for the formation of urinary calculi is a neglected though curious point in the history of latter productions. M. Civiale has made some researches with the view of clearing up several obscure facts, and has assembled together 166 cases, from an analysis of which it appears that the nucleus of the stone was formed in 32 cases by needles or pins; in 21 by bougies or catheters; in 14 by pieces of wood; in 13 by bullets; in 24 by fragments of bones, pipe stoppers, barometer tubes, or stems of plants; in 14 by the beards of barley or hairs; in 4 by pledgets of lint, and finally by rings, nails, fruit-stones, needle-cases, &c.

The greater part of the above cases present several interesting points, but we must confine our notice to those of recent date.

Pins or needles are the foreign bodies which most frequently serve as nuclei for stone. This probably depends on the facility with which they present themselves to a certain class of depraved individuals, although it is difficult to conceive in what manner females, more especially, can satisfy their passions with such instruments. A few needles, of from five to six inches in length, remained a considerable time in the bladder without having their points covered with calculous matter, and in a few cases only did they penetrate the bladder, vagina, perineum, &c.

The formation of calculi upon bullets, and other foreign bodies of a similar nature, gives rise to several physiological considerations of importance. In many cases these bodies have passed into the bladder through passages which the surgeon would never dare to traverse with the knife, and what is more remarkable, without producing, in many cases, any notable disorder or inconvenience. Thus, for example, pieces of wood from three to seven inches in length, bullets, &c., have remained for years in the bladder without giving rise to the insupportable pain, necessity of frequent micturition, &c., which usually attend the presence of foreign bodies in that viscus.

The introduction of the nucleus is either accidental or intentional. In the former case the foreign body has found its way into the bladder in consequence of a wound, of a fall, of some fistulous communication between the intestine and bladder, or finally through the fault of the surgeon; in the latter case it, generally speaking, has been introduced by the patient himself, sometimes for the purpose of relieving a retention of urine, or pushing back a calculus; sometimes in a fit of momentary derangement; but most frequently in consequence of depraved and lascivious ideas. The effects produced by the foreign bodies in the bladder are extremely various. Sometimes they generate the highest degree of suffering and pain, which terminate rapidly in death; in other cases they seem to be scarcely felt by the organ, or the inconvenience which they occasion is purposely concealed by the sufferer.

In a therapeutical point of view the presence of these foreign bodies in the bladder is a matter of much interest. From the table to which we have already alluded it would appear that in 12 cases only, of the 166, they were discharged spontaneously either from the bladder or by an artificial passage. This is a curious circumstance, when we consider that in many cases the bodies themselves are small, and of a rounded form. In 64 cases the operation of lithotomy was performed; the difficulty of the operation depending much on the size and shape of the nucleus of the stone. In 26 cases the foreign bodies were extracted through the urethra, without the aid of a cutting instrument. The majority of such facts is recent and connected with lithotrity. M. Civiale has already published six cases in which he has extracted with success two elastic bougies, a bean, a pea, a stem of a plant, and a piece of straw. In his present communication he details two more cases; in one of which he extracted a fragment of a wäxen bougie; in another a portion of a barometer tube about three inches in length.—*Lancet.*

CHINESE MEDICAL OPINIONS OF THE VIRTUES OF GINSENG.

BY JAMES MEASE, M.D.

[The following note, with the enclosed matter to which it refers, was sent some years ago by its author, Dr. Mease, to one of the editors of the North American Medical and Surgical Journal, for insertion in the pages of that work. The acting editor at the time, to whom the article was transmitted, contrived to bury it amongst other papers; and it has only emerged from its obscurity within these few days past. To this negligence we must ourselves plead guilty. In giving publicity, at this time, to the communication of Dr. Mease, we believe that we do not act adversely to his wishes.—*Ed. Eclec. Jour.*]

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I cheerfully comply with your request, to permit you to use, for your Medical Journal, the translation from various Chinese writers on the virtues of *gensang*, which you heard read to the American Philosophical Society, at our last meeting. This translation was made by that excellent Chinese scholar, and pious missionary, the Rev. Dr. Robert Morrison, at my request, in consequence of a wish expressed to him, that he would consult the native physicians at Canton, in order to learn from them their actual opinions on the virtues of a medicine which we all know has continued for ages to maintain its credit among them, as a universal panacea; but which never has attained the least reputation among American or European physicians. "Instead of the verbal opinions of medical men," the Doctor preferred to make an "extract from a standard medical work," which it would seem is a compilation from other books, written by the members of the profession. Mr. Pennant says: "The powers of the medicine may possibly have been exaggerated in China; but I never can believe that a root, universally esteemed in that empire for ages, can be destitute of virtues. We judge from dried specimens. But Father Jartoux* speaks highly of its qualities, from his own experience, and on the very spot."† From the extract by Dr. Morrison, some opinion may be formed of the state of medical science in China. It will not, I apprehend, serve to create any proselytes to the opinion of Mr. Pennant, among the medical faculty.

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Canton, China, October 8, 1822.

Translation of an extract from the Chinese pun tsaou kang muh, concerning the virtues of JIN SĂN, commonly called *gensang*, or *ginseng*.

It is called *Jin*, "a man," from a fancied resemblance in some of the roots to the figure of a man; and *Săn*, "gradual," from its slow growth. It is called also, *shin tsaou*, "the divine plant;" *too tsing*, "the essence of the earth;" and various other names.

Since no medical men have compared European and Chinese medicine, and by studying the language, settled the corresponding terms, the translation of medical papers cannot be expected to be perfectly accurate.

In the following, several different works are quoted, describing, in different words, nearly the same ideas:

Ginseng strengthens the fine viscera; tranquilizes the animal spirits; fixes (or acts as a sedative to) the soul; stops alarm and agitation, and expels noxious aura. It brightens the eye; expands the heart; and increases sapience. If taken for a length of time, it lightens the body, and prolongs life.

(*The ancient original description of the medical virtues of plants.*)

* Phil. Trans. Royal Soc. Lond., abd. vol. iv, part 2d, p. 315. Jartoux was an early Catholic missionary in China.

† Pennant's View of Hindostan, 4to, vol. iii, p. 165. London, 1800.

Ginseng cures coldness of the stomach and intestines; rumbling and pain in the abdomen; fullness in the thorax, or a sense of distention and uprising of the chest; cholic and vomiting. It composes all the inward parts; stops thirst; gives free motion to the blood and pulse; strengthens the system; and prevents forgetfulness. (*From the work called* Pëë luh.)

Ginseng is principally useful in curing inward complaints included under the technical phrase, "*Five labours and seven hurts*,"—*i. e.* weakness arising from anxiety, severe study, grief; a tendency to evacuation from venereal excess, gleets, impotency, &c.

It is beneficial in weakness and spitting of phlegm; stops vomiting and belching; strengthens all the viscera; secures internal health, and maintains the good condition of the spirits; disperses phlegm; cures pulmonary consumption, falling fits, cold aura uprising, fever and loss of appetite, weakness and much dreaming, &c. &c. (Kür keuen.)

Ginseng stops a parched anxiety, and disperses sour liquid rising from the stomach. (Le seun.)

Ginseng digests food, and expands the stomach; composes the inward parts, and cures complaints of the breathing; it is an antidote to metallic and mineral poisons. (Ta ning.)

Ginseng cures complaints of the lungs and stomach, and weakness of the *yœng* principle, shortness and want of breath; strengthens and soothes the inward parts; purges from the heart, and lungs, and stomach, noxious heat; allays thirst, and produces mollifying secretions. (Guen soo.)

Ginseng cures all sorts of weakness in men and women: fever and perspiration; giddiness and pain in the head; inversions of the stomach and vomiting; intermittent fevers, and dysentery or chronic diarrhœa; interruption of urine passing in drops; inward complaints arising from exposure to wind or to heat; weakness, with spitting of blood, with or without coughing; purging of blood; blood passing by the urinary passage, or from the uterus; and all complaints connected with conception, and after child-birth. (She chin.)

To Dr. Mease, from R. Morrison.

ON SOME EFFECTS OF THE WARM AND HOT SPRING BATHS, Va.

BY ROBERT P. RICHARDSON, M.D., WILLIAMSBURG, VA.

Having for several seasons successively witnessed the operation of the warm and hot baths, at the Warm and Hot Springs in Virginia, upon a variety of invalids, it may not be uninteresting to you to be apprised of some facts in relation to those waters, which have come within my knowledge.

I knew two gentlemen, who after taking the warm spring bath, at the Warm Springs, Va., more with a view of cleansing the skin than any other, to have their bowels purged several times. A whole family, from a similar idiosyncracy, (two or three in number) were affected in the same manner, from the use of the warm spring bath: some of them so much so, as to have bloody stools, and require medical aid.

On one occasion, whilst labouring under a fit of indigestion, accompanied with acid eructation, flatulency, constipation, &c., in a short time after using the hot douche, or spout, 105° F., at the Hot Springs, Va., I had a free evacuation *per anum*, and passed vitiated bile.

During the last month, I knew a patient to be jaundiced in twelve hours after the use of the sweat bath, or boiler, as it is termed, at the Hot Springs, Va., 105° F. The circumstances of the case were briefly these.—Temperament bilious—for several years past laboured under functional derangement of the stomach and liver—with almost constant uneasiness in the right hypochondriac region, and right side, half-way between the short ribs and axilla—pain in the

region of one or both shoulders—constipated bowels—a redundancy of biliary secretion. At the time of using the hot bath, the pain in the region of the liver was unusually great: indicating, beyond a doubt, congestion, if not inflammation of that organ.

A LUNATIC ASYLUM FOR THE POOR.

The propriety and advantages of a lunatic asylum for the reception and treatment of the insane poor, in the State of Pennsylvania, have been recently suggested by an intelligent and estimable friend.—We use this last term, both in its common, and in its more restricted and conventional meaning. We but advert to the subject just now, in order to recommend an inquiry which he very properly indicates as that which is to furnish the requisite data on which to ground application for legislative assistance, as well as for individual benevolence. It is, to ascertain the number throughout the State of persons in indigent circumstances, who are insane, and who, on account of their poverty, are prevented from availing of the benefits to be obtained from existing lunatic hospitals and retreats.

Our medical brethren might contribute their share to this work, both by stating the cases which come within the circle of their own observation, and by inciting others, who have more time and leisure, to engage methodically in it. It would serve to quicken to further action, if a beginning were made, by procuring the returns from one county or even populous district. If an authentic communication of this nature were sent to us, it would be transferred to the quarter in which further measures might be supposed to originate.

In England, the Pauper Lunatic Asylum at Hanwell, under the direction of Dr. Ellis, has been found to be productive of the best effects, both for the restoration of many of its unfortunate inmates to health, and for improvements in the moral and physical treatment of the insane.

BIBLIOGRAPHY.

Lectures on the Theory and Practice of Physic. Delivered in the College of Physicians and Surgeons of the University of the State of New York: By the late DAVID HOSACK, M.D., L.L.D., F.R.S., Professor of the Theory and Practice, &c., and of Clinical Medicine, in that Institution.—With an Introductory Letter, by NATHANIEL CHAPMAN, M.D., Professor of the Theory and Practice of Medicine, in the University of Pennsylvania, &c. Edited by his Friend and former Pupil, HENRY W. DUCACHET, D.D., Rector of St. Stephen's Church, Philadelphia. Philadelphia: Herman Hooker, Chestnut Street. 1838. Pp. 700; 8vo.

LONG as is the title page of this book, it is still imperfect in the omission of one of the collegiate titles of its editor. If he chooses to drop his medical doctorate, when speaking or writing in his pastoral capacity, we have no right to object; but when he appears, as he so appropriately does in the present instance, in the office of medical editor, we cannot but regret that he should think fit to forego the announcement of a title which, by those who are not acquainted with his former history, would alone entitle him to be heard in the present matter. Be it known, therefore, to all our medical brethren, who do not claim to more than ten or twelve years' standing in the profession, that HENRY W. DUCACHET was

not merely a pupil of Dr. Hosack, who read medicine for a while, and then gave up its study for that of another profession; but that he graduated in due form, was for some years regularly engaged in the practice of physic, and was an industrious and esteemed contributor to the medical periodical literature of the day: having been, in fact, one of the editors of the *Medical Recorder*, a popular and widely circulated quarterly journal. The titles, then, after the name of Henry W. Ducachet, are Doctor of Medicine, and Doctor of Divinity. We are not aware of there being any incompatibleness in them; nor that the profession of the latter should prevent the retention of the former. The one was as fairly worn as the other; and of the two, we will venture to say, that the doctorate in medicine was acquired by more severe and sustained study than the doctorate in divinity. It will be remembered, that the second is not, like the first, a test of the requisite attainments and capabilities to engage in the practice of the profession; but is, for the most part, honorary, and conferred on clerical gentlemen, who for some time have honorably and usefully discharged pastoral duties, as well as evinced theological lore.

This much premised, to show the qualifications of Doctor Ducachet to comply with the request of his "beloved preceptor and friend," Dr. Hosack, we shall next, but with brevity, advert to the merits of the work before us.

Though announced to be "Lectures on the Theory and Practice of Physic," the present volume contains only his lectures on fevers and the phlegmasiæ, as the editor apprises us in the preface. It would be a superfluous task, even had we more space for the performance, to enter into a history of the high professional standing and varied attainments of Dr. Hosack;—these must be well known to a large number of physicians in different parts of the United States, who, in the course of their collegiate study, attended his lectures, as well as to the readers of his published works.

In his lectures, Dr. Hosack was the advocate of two doctrines which have been the subject of much disputation in the schools, and have had their numerous sectaries in the community at large. The first is, that the alteration of the fluids is prior to, or at least simultaneous with that of the solids in disease. The second is, the contagiousness of Yellow Fever.

Humoral pathology, so long dominant, was, through the writings and teachings of Hoffman, Cullen and Brown, made to yield to a belief in solidism, and to the chief if not exclusive agency of the solids in receiving the impression of morbid causes, and of exhibiting, in their changes, the effects of disease. Dr. Hosack is, we believe, correct in his creed, although his facts are, in too many cases, vague assumptions, and his arguments, in consequence, strained and inconclusive. Fully impressed himself with the soundness of the doctrine, he seems to have regarded with indifference, as he has at any rate passed over in silence, the multiplied and diversified experiments and observations made within the last twenty-five years, which show that various foreign and especially saline matters, have been received into the circulation, and have passed through the depurating and secreting organs, with a retention of their peculiar properties, as evinced by the application of suitable tests and re-agents. The fluids, if not the first to be affected by morbid agents, are, when deteriorated, the sustaining cause of the disease; and by the changes induced in them by remedial means, they may become the chief cause of salutary re-action, and of restoration to health.

We might, from *à priori* reasoning, show the equal power exercised by the fluids in disease, from the well known fact, that there is no organ, nor tissue even, which does not consist of fluid as well as solid; nor can it undergo any alteration of structure, or perform any function, without the conjoined and simultaneous action of both. The circle of nutritive actions in the animal economy, in the substance of all the organs, consists in the conversion of solid into fluid, and of fluid into solid. The one impresses and is impressed by the other. The phenomena of the growth of the body, and of its several parts, illustrate and are produced by these mutations. In disease, similar changes are constantly occurring, but with different degrees of activity and proportion from what prevailed in health. No pathology, therefore, is complete, in which cognizance is not taken both of the fluids and of the solids, and of their reciprocal action. This fact, pointed out by Bichat, has been enforced with various illustrations by many succeeding writers of the present age.

In the contagiousness of Yellow Fever, Dr. Hosack is a believer. He is opposed, on this point, by nearly all the medical practitioners of the West Indies and of the United States: but is sustained by many in Europe. In proportion as men, whether physicians or others, become familiar with the visitations and nature of the disease, they are anti-contagionists. Belief on the affirmative side is most strong in places where the disease has rarely made its attack, or in which it has never appeared. We would refer to an article on this subject, in another part of the present number of this Journal.

On the same footing with Yellow Fever, as to its imputed contagiousness, Dr. Hosack places Typhus Fever, Plague and Dysentery. The tendency of belief, that Typhus Fever is contagious, is increasing. The same cannot be said of Dysentery. Plague, at one time thought to be indisputably and violently contagious, is now, since it has been subjected to a more careful and continued observation, by impartial observers on the spot in which it appears, regarded in a much less terrific aspect; and its character in this respect, has been denied by more than one competent witness. To the latter conclusion we were ourselves led, some years since, when in the discharge of our duty, as lecturer on medical topography, in connexion with general pathology, we took occasion to investigate the localities of the disease, and the modes of life and modifying circumstances under which they who have been the greater sufferers from the attacks of plague, were placed.

But, leaving these matters of opinion, into a detailed examination of which we have neither room nor inclination to engage at this time, we proceed to call attention to the array of facts, and the numerous valuable and practicable deductions for the guidance of the practitioner, in the Lectures on the Practice of Physic, by Dr. Hosack. We cannot but admire, in the first place, the *lucidus ordo*, not less than the terseness of expression, in the lessons of this distinguished teacher and physician. The learning, which would have oppressed many others, is made by him to illustrate and adorn; and disquisitions elsewhere barren and wearisome, become, under his pen, both pleasant and instructive. Even where we do not join the author in his conclusions, he teaches us caution in adopting our own; and though failing to convince, he furnishes not the less matter for profitable reflection. The physician who has gleaned much experience of his own, and is slow to receive the views of others, may, nevertheless, peruse these lectures, enjoying, the while, the convic-

tion that he has acquired a thoughtful, and an observing, and an experienced companion—one who will add much to his own collected treasure. Younger men, strong as they may think themselves on organology, and sceptical of all evidence which is not furnished directly by a lesed part, will find profitable hints and wise suggestions, derived from a larger—it may be at times a more confused—class of phenomena, which have come under the observing eye of Dr. Hosack. Open though he be to criticism, on the score of a want of precision in his pathological data, and consequent obscurity of diagnosis, on some occasions, his history of the progress of a disease, from its inception to its termination, its varying symptoms and fallacious appearances, will still convey precise and useful notions.

The therapeutical part of the lectures is clear of a redundancy which confuses, without exhibiting a meagreness which would keep us in doubt. The chief remedial measures are placed in the foreground, and in the strongest relief, and not made, as is too often the case, prominent only by being the first enumerated. Details, of some moment too, furnished by modern pharmacy, are not all given; but the main object, of marking out the right course, and of arming us against the dangers which most early beset us in the first and most perilous stage of the disease, is well and worthily fulfilled.

It would be an easy matter for us to prove the justness of these remarks, by abundant quotation—but our limits forbid. Hereafter we may perhaps find it convenient to enforce, by this mean, important propositions on the nature and treatment of the diseases included in the lectures. At present, we conclude by recommending, with all confidence, our readers to give a place to Hosack's Practice of Physic, on their shelves, in company with Good, and Armstrong, and Mackintosh; sure, as we are, that it has merits, distinctive and numerous enough to entitle it to be repeatedly studied with care.

Prospectus of a Course of Sixteen Lectures on Phrenology; to be Delivered by Mr. George Combe, of Edinburgh. Boston: pp. 4.

George Combe, Esq., the celebrated and able writer and lecturer on phrenology, is at present in Boston. He purposes, as we learn, to visit Philadelphia in the early part of January next; and will, if a suitable class be formed, give a course of lectures on his favourite science. Of his capabilities to instruct his auditors, no matter to what school of philosophy they may belong, the fullest evidence has been furnished in the success and approbation which have attended his labours, in this way, in many parts of Great Britain and Ireland. Next to Gall and Spurzheim, Mr. Combe, more than any other man, has exhibited phrenology in all its various aspects and connexions, in such a manner as to establish for it an interest in the mind of every intelligent inquirer into intellectual and ethical philosophy; and to prove its salutary application to education, jurisprudence, criticism, and taste.

Mr. Combe is, by profession, a writer to the Signet, in Edinburgh, which corresponds nearly with an English attorney-at-law. Bringing with him habits of study, reflection, and a fondness for and knowledge of metaphysics, then so fashionable in the Scottish metropolis, through the lectures and writings of Stewart and Brown, his conversion to phrenology was soon distinguished by a

display of powers of critical analysis, and perspicuous and lucid dialectics in his *Essays on Phrenology*. The attacks of Mr. Jeffrey, in the Edinburgh Review, on this work, and on the science which it advocated, were repelled by Mr. Combe, with a vigour and point which completely, even in the minds of impartial observers, disarmed the Review, and showed the nullity of its assault.

It is not our object, at this time, to specify all the contributions to phrenology from the pen of Mr. Combe. They are numerous and valuable: giving reputation to the writer, and adding weight to the subject on which he dilates. The work which has more particularly served to *popularise* this gentleman, is "*The Constitution of Man Considered in Relation to External Objects.*" His great merit consisted here, not so much in his discovering as in fixing, for the purposes of general comprehension and guidance, certain principles connected with and growing out of the constitution of man. It shows the close reasoning and the practical philosophy of Mr. Combe, and should of itself, even were other proofs of his genius wanting, excite a desire to be brought into closer relations with him, and especially to receive the benefit of his oral discourses.

With his large and comprehensive views of the philosophy of mind, and his careful study of the duties and relations of man, intellectually and morally, Mr. Combe cannot fail to be an instructive as well as a pleasing teacher and expounder; nor is it necessary for a satisfactory appreciation of his merits, in a full understanding of his lessons, and their application to the wants and incidents of every-day life, that his auditors should be deeply imbued with phrenological lore, or even converts to its systematic details. If, under the classification which he adopts, he collects the largest number of facts, connected with the nature and exercise of the mind, solves more of the mysteries of metaphysics than has hitherto been done, reconciles apparent contradictions in ethics, and illustrates the natural law by reference to that which is revealed, all who hear him must confess their obligations to the spirit of his philosophy, even though they refuse their admiration for the garb with which he invests it.

On referring to the "Prospectus of a Course of Sixteen Lectures on Phrenology," now in course of delivery in Boston, by Mr. Combe, we find the following matters, which he treats of, under the head of "Application to Phrenology:"—"VARIETIES OF DISPOSITIONS—VARIETIES OF TALENTS, with Illustrations of Busts of Remarkable Men—DIFFERENCE OF NATURAL CHARACTER, with Illustrations—EFFECTS OF NATURAL QUALITIES and EXTERNAL CIRCUMSTANCES ON HUMAN CONDUCT—EDUCATION, PHYSICAL and MORAL, its Objects, Principles and Practice—VIEW OF PURSUITS and INSTITUTIONS SUITED TO THE NATURE OF MAN, AS UNFOLDED BY PHRENOLOGY."

The lectures will be, we are told in the prospectus, amply illustrated by specimens and casts. The terms for attendance on a course of sixteen lectures are, it seems to us, extraordinarily moderate—being only five dollars. Mr. Combe, we should infer from the announcement, as indeed we learn in other ways, does not look to making the proceeds from his lectures a source of pecuniary gain, so much as a compensation for unavoidable expenses necessarily incurred in their delivery. Though possessed of a competency for his own purposes and wants, he can hardly be expected to abstract from it, on an occasion in which he is giving up his time and his intellect for the instruction of others.

We cannot have any doubt that a large class will be formed in advance,

ready to receive Mr. Combe, urgent for him to commence his instructive labours soon after his arrival in Philadelphia. The members of the learned professions, so called, may be more particularly expected to take the lead in this business; but, for the literary reputation of our city, we must hope that every person of common intellect and education, who feels any interest in a knowledge of himself and of his fellow-men, and whose sympathies are in favour of an amelioration of his species, by a better system of mental and physical culture, will step forward in an early manifestation of his intention to become one of Mr. Combe's auditors.

Intermarriage; or the Mode on which, and the Causes why, Beauty, Health, and Intellect, result from Certain Unions; and Deformity, Disease, and Insanity from Others. Demonstrated by Delineations of the Structures and Forms, and Descriptions of the Functions and Capacities, which each Parent or Every Pair, bestows on Children, in Conformity with Certain Natural Laws, and by an Account of Corresponding Effects of the Breeding of Animals. Illustrated by Drawings of Parents and Progeny. By Alexander Walker. London. 1838. Pp. 422: 12mo.

This work, entitled "Intermarriage," though written professedly to illustrate certain natural laws, is not susceptible of ready reduction to the laws of criticism. Bold in announcing his own views, and eager in claiming for them originality, Mr. Walker has hardly laid down his propositions before he blends, whilst supporting, them with the opinions of other writers. Claiming to be guided to his deductions by positive facts, he, not the less, rambles in his course, as if he were following up the barely visible and most attenuated thread of hypothesis. Writing in the belief, that to the pure all things are pure, he goes on fearlessly, and, as we believe, with perfect honesty of purpose, describing whatever seems to him to be demanded for the properly unfolding of his subject. So obviously, however, are his illustrations intended to support the important points which he aims at establishing, that the reader will no more think of accusing him of indelicacy, than he would a professor in a school of design, who exhibits the nude figure, and points out its several proportions to an attentive and studious class. In this respect the work contrasts advantageously with that by Dr. Ryan, on Marriage, to which we directed the reader's attention a short time back. Mr. Walker writes to sustain what he conceives to be a highly important view in anthropology.—Dr. Ryan merely describes, without apparent aim or object, but with an inconvenient result on the mind of the reader. The one summons witnesses to prove his case;—the other makes a show gallery.

Mr. Walker, in his dedication to Mr. Knight, the celebrated naturalist, opens his views at once, in the following sentence: "One of the newly discovered laws of nature, which are announced in this work, gives to man, for the first time, a precise rule for the guidance of intermarriage in his own race, and for that of breeding among animals.

"According to that law, one parent gives to progeny the forehead and organs of sense, together with the nutritive organs contained within the trunk of the body; whilst the other parent gives the back-head and cerebel, or organ of the

will, together with the locomotive organs composing the exterior of the trunk, and the whole of the limbs."

In the preface, or, as he calls it, "Advertisement," Mr. Walker presents sixty-one specifications "of the more important original facts and opinions which the work contains." Among them we read—"The explanation of the natural preference of the various kinds of beauty,"—"The establishment of the natural laws regulating the resemblance of progeny to parents,"—"The explanation of the differences in the features of children, who yet resemble the same parent,"—"The showing that fatuity is the disease of hereditary royalty and hereditary aristocracy,"—"The pointing out the perpetual reformation of the original races inhabiting the British isles, Celtic, Saxon, Danish, Norwegian, Sclavonic, &c.,"—"The establishment of the laws of sex, by which either kind is, along with the general vital system, given by either parent,"—"The statement of the fact, that a man has the power to reproduce and preserve either series of organs, the best or the worst portion of his organization,"—"The mode of discovering the mental qualities of animals,"—"The affording the surest means of determining the parentage of children,"—"The affording the surest guidance of their education,"—"The pointing out the mode of improving the organization, where there is a tendency to mental weakness."

These are some of the secrets which Mr. Walker claims to have revealed; and which are certainly worth being known. But does Mr. Walker withdraw the curtain which either Nature has interposed, or man's ignorance allowed to remain? The answer is best made by readers for themselves; and, perhaps, we may in the course of the year, enable ours to form a judgment in this important matter. The whole volume would come within a number of our *Library;* but there are numerous plates to copy, which would be expensive.—*Nous verrons.*

A System of Practical Surgery; with Numerous Explanatory Plates; the Drawings after Nature. By JOHN LIZARS, Professor of Surgery to the Royal College of Surgeons, and lately Operating Surgeon to the Royal Infirmary of Edinburgh: Part I. 1838. Pp. 122: 8vo.

THE title is well justified by the contents and illustrative engravings of this work of Mr. Lizars. We do not know of anything of the kind which could prove so acceptable to both the student and practitioner of surgery. There are eighteen pages of engravings, which last are ninety in number, executed with great distinctness and beauty. When we receive the second and concluding part, which is promised in December, we can better judge of the propriety, in reference to the wants of our readers and the interests of our publishers, of recommending the insertion of the whole work in the *Library.*

ADJUSTMENT OF THE EYE TO DIFFERENT DISTANCES.

THE greater part of the Reports of the *Medical Section* of the BRITISH ASSOCIATION, will be found in this number of the "Eclectic," a month earlier than preceding years;—thanks to steam-packets, and the kindness of a friend, who supplies us with the *Athenæum.* The remaining portion is at hand, but its insertion is postponed until December.

In the Section on Mathematical and Physical Science, Sir David Brewster

read a communication "On some Preparations of the Eye," by *Mr. Clay Wallace*, of New York: the purport of which is thus given in the Athenæum of Sept. 1.—

ON SOME PREPARATIONS OF THE EYE.

BY MR. CLAY WALLACE, OF NEW YORK.

"Sir David Brewster laid before the Section a series of beautiful preparations of the eye, made by Mr. Clay Wallace, an able oculist in New York, calculated to establish some important points in the theory of vision. As no paper accompanied these preparations, which had reached him at Newcastle, Sir David Brewster explained to the meeting their general nature and importance. Mr. Clay Wallace, he stated, considers that he has discovered the apparatus by which the eye is adjusted to different distances. This adjustment is, he conceives, effected in two ways,—in eyes which have *spherical lenses* it is produced by a *falciform*, or hook-shaped muscle attached only to one side of the lens, which by its construction brings the crystalline lens nearer the retina. In this case, it is obvious that the lens will have a slight motion of rotation, and that the diameter, which was in the axis of vision previous to the contraction of the muscle, will be moved out of that axis after the adjustment, so that at different distances of the lens from the retina different diameters of it will be placed in the axis of vision. As the diameters of a sphere are all equal and similar, Mr. Clay Wallace considered that vision would be equally perfect along the different diameters of the lens, brought by rotation into the axis of vision. Sir David Brewster, however, remarked that he had never found among his numerous examinations of the lenses of fishes any which are perfectly spherical, as they were all either *oblate* or *prolate* spheroids, so that along the different diameters of the solid lens the vision would not be similarly performed. But, independent of this circumstance, he stated that in every solid lens there was only one line or axis in which vision could be perfectly distinct, namely, the axis of the optical figure, or series of *positive* and *negative* luminous sectors, which are seen by the analysis of polarized light. Along every other diameter the optical action of the lens is not symmetrical. When the lens is not a *sphere*, but *lenticular*, as in the human eye, or in the eyes of most quadrupeds, Mr. Clay Wallace considers that the apparatus for adjustment is the ciliary processes, to which this office had been previously ascribed, though not on the same scientific grounds as those discovered by Mr. Wallace. One of the most important results of Mr. Wallace's dissections is the discovery of *fibres in the retina.* These fibres may be rendered distinctly visible. They diverge from the base of the optic nerve, and surround the *foramen ovale* of Soemmering at the extremity of the eye. Sir John Herschel had supposed such fibres to be requisite in the explanation of the theory of vision, and it is therefore doubly interesting to find that they have been actually discovered. Sir David Brewster concluded his observations by expressing a hope that anatomists in this country would turn their attention to this subject; and that with this view he would place the preparations of Mr. Clay Wallace in the Exhibition Rooms at Newcastle during the week."

A copy of Dr. Hayward's valuable Report of the Surgical Cases in the Massachusetts General Hospital, for 1837, is received, and will find a place in the next number of the Journal.

ERRATUM.*

On *Dr. Sharpless's Auriscope*, p. 437, at one line from bottom, *instead of* "In the first place, the sun must be high in the heavens, and the neck of the patient must be greatly strained to admit the *direct* rays into the ear, and the head must be turned almost downwards to permit an illumination of the nose," *read*, "In the first place, *when* the sun *is* high in the heavens, the neck of the patient must be greatly strained to admit *a direct ray* into the ear, and the head turned almost downward to permit an illumination of the nose."

* This correction was omitted in the Sept. No., Vol. II., of the Eclec. Jour. of Med.

THE ECLECTIC

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BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

(Concluded.)

Thursday.—Previously to the reading of any papers, three recommendations to the General Committee passed the Section; 1st. That a communication should take place with members of the Medico-Chirurgical Society of London, in order that papers read at this Section might be occasionally published in their Transactions. 2d. That application should be made for a grant of 200*l.* from the funds of the Association, for the purpose of bringing over to this country, and retaining here for one year, Alexis, mentioned by Dr. Beaumont, in his work on Digestion, for the purpose of making physiological and chemical researches on the subject of digestion, in connexion with the Chemical Section. The Committee proposed for the investigation were, Drs. Thompson, Prout, and Graham, and Professor Owen. 3d. For the appointment of a committee to communicate with previously appointed committees for the purpose of furnishing reports on particular subjects for which pecuniary grants were given. This step was considered necessary, from the fact, that no communication had been received from some of those committees.

Dr. Granville then laid before the Section an improved Stethoscope, the advantages of which were the facility of examining the patient without the necessity of his rising, and also of avoiding the necessity of having the practitioner's head immediately parallel to the part examined; these advantages were effected by the addition of a half ball-and-socket joint attached to the ear-piece, which of course became moveable to a greater or less angle with the cylinder, as circumstances might require.

Dr. Rees read a paper 'On the Chemical Nature of the Liquor Amnii.'

The principal points established were the specific gravity being found lower than the previous statements, being only 1007. As an average of different results, that the fatty matter discovered in it was different from the fatty matter of the blood; and that urea was discovered in every specimen examined.

Dr. Bird observed that this last fact tended to support the generally received opinion of German physiologists,—namely, that the Liquor Amnii was a secretion from the fœtal kidneys.

Mr. Baird detailed a case of successful excision of the elbow joint. The patient was presented to the Section, and considerable motion was shown to exist in the joint; so much so, as to enable him to pursue his ordinary occupation in a glass manufactory.

Dr. R. D. Thomson read a paper 'On the Modus Operandi of Nitrate of Silver as a Caustic and Therapeutic Agent.'

It was stated that light had no power whatever in decomposing nitrate of silver. In every instance in which this apparently occurred, it had been previously rolled in paper, which afforded an opportunity for it to combine with organic matter, and thus produce the effect upon which the general opinion was founded. A specimen of pure nitrate of silver, placed in a tube hermetically sealed, was exposed on the top of a house for a considerable period without the slightest discolouration. The specimen was exhibited. To illustrate the action of nitrate of silver when applied to the skin, or a diseased surface, Dr. T. added a solution of this substance to a solution of white of egg or albumen; he found that two distinct compounds resulted, one soluble, the other insoluble in water. He contended, that these compounds were formed when it was ap-

plied to an organized surface, and that, they being removed, the caustic effect was thus produced; and that, in the internal use of this substance, the doses which could be administered in safety were proportioned to the quanity of albuminous matter contained in the stomach; and that in the event of a deficiency, the coats of the stomach would be acted upon in the same manner, and death ensue; but that it was impossible for the substance unchanged to become mixed with the blood, and deposited on the surface, as was generally believed.

Mr. Greenhow read a brief memoir on Fractures, for the purpose of introducing to the Section a model of a new sling fracture bed, applicable to every fracture in the lower extremity, but peculiarly adapted to the treatment of compound fractures of the femur. The following advantages were attainable by the present apparatus:—1st, Ease of position; 2d, Easy and gradual extension by means of a screw at the termination, beyond the heel of the patient, whose action was connected with the ancle joint and instep; 3d, Facility of examining and dressing the limb in cases of compound fracture, without disturbing the fractured ends; 4th, The freedom of slight motion enjoyed in such a way as to be of no injury to the process of reparation. Mr. Greenhow detailed some interesting cases treated with this apparatus, demonstrating its peculiar advantages.

Friday.—Dr. Bowring was introduced to the Section for the purpose of communicating some observations on Plague and Quarantine, made during his residence in the East.

Dr. Bowring apologized for coming before the Section, he not being a medical man, but having travelled in the East for the purpose of observation in reference to our commercial relations, his attention had been naturally directed to the subjects of plague and quarantine—subjects the importance of which could hardly be overrated, many millions being annually lost to this country from quarantine regulations. The results of his observation had produced a strong conviction of the non-contagion of plague; and he thought it right therefore, to lay before this Section a few remarks on the subject. He alluded to the very secondary character of the facts, on which the prevalent opinions were founded. Some were so absurd as not to be worthy of the slightest attention: such as plague being introduced at Leghorn, by the unrolling of a mummy, that had been buried for 2000 years,—at Constantinople by the wing of a bird having touched a kite which a boy was flying from a house top,—from a cat having been seen to jump into a basket in which were some clothes, from which the disease was subsequently caught. Dr. Bowring said, that physicians residing in the East were rapidly changing their opinions on the subject, but they were prevented in many instances from freely expressing them, by the interested Boards of Health, who neither liked to part with their extensive power (even of life and death), or with their salaries. Clot Bey was a decided anti-contagionist, and that after an experience of 8,000 or 10,000 cases. Dr. Bowring mentioned many cases where facts were distorted, or invented to account for cases of plague from contagion; and in one remarkable instance, where the misrepresentations were exposed, it was denied that the case was plague at all, because they could not maintain their assertion of contact having taken place. The Mussulmans are by their religion non-contagionists, and Dr. Bowring hoped they might never become otherwise, as the aggravation of the calamity would be tenfold if they did. The opinion as to the contagious nature of the disease prevailed principally amongst the Levantines and Franks; but every other superstition was as readily believed by them. He had collected the most solemnly attested evidence of the appearance of Peris and Genii, and of the intermarriages of the former with mortals: he had collected more strongly-attested *facts* on these subjects, than on the contagious nature of plague. Dr. Bowring asserted that, from innumerable instances, quarantine appeared to give no security, and was of opinion that these establishments were mere political engines, of great power and convenience in a despotic country. In the lazarettos the whole correspondence of the East was read. The Russians had a most perfect system of quarantine, yet the plague

got into Odessa. In 1831 quarantine and lazaretto establishments were introduced into Egypt, under the superintendence of the Consuls, yet the plague got into Egypt. In Jaffa it broke out in the house of the Russian Consul spontaneously, and in Jerusalem in a convent, with which there could have been no communication. In the lazarettos, a little disease was made a great deal of; in one instance a greater number died from dysentery than from plague. Lazarettos, he contended, rather increased than diminished the evil. If a strict separation could ensure safety, the Pacha's harem would escape; yet in 1835, seven died there of plague. It appeared at one time in Old Cairo, and not in New, and *vice versâ*, although there was constant communication; the same was true as to Cairo and Alexandria. The disease never penetrated Nubiá, though constantly on the borders, and frequent intercourse taking place. In Cairo on one occasion 400 or 500 houses, whose inhabitants had all perished, were subsequently opened, the linen and clothes in them sold in the marketplace, without any cases of plague resulting. Clot Bey had again and again inoculated himself without producing the disease. Dr. Boulard wore the clothes of a patient, who died of the disease, for twenty-four hours, without catching it. The following information was communicated to Dr. Bowring, by a physician of long experience, in answer to a series of direct queries, viz.: that it is indigenous in Egypt, never entirely absent, never imported, that it *frequently* occurs spontaneously, that cordons afford no security, that contact very frequently did not produce it, and that the most cautious frequently suffered from it; that free ventilation was effective in checking the disease, that it was not produced by linen which had been exposed to the infection, and that when a number of persons exposed to its influence removed from the spot, the mortality became much diminished. Dr. Bowring concluded by expressing his own strong conviction on the subject; but he had no object but to promote the discovery of truth, which could only be done by patient and serious inquiry, and by evidence of a primary character.

Dr. Lynch begged leave to propose a resolution, to the effect, that Dr. Bowring's paper should be published.—Mr. Greenhow could not but remark on the strong analogy, which existed between the statements of the learned gentleman on plague and lazarettos, and the events which occurred in this district relative to cholera and cholera hospitals. He also requested Dr. Bowring to furnish a copy of his observations to the Secretaries.—Dr. Granville opposed the motion of Dr. Lynch. The communication he contended was not strictly medical; it was political, not pathological: he must oppose too the deductions of Dr. Bowring; he was not indeed present at the commencement of his address, but that was the less necessity as he had heard the whole subject in detail, on board the *Ocean* steam-packet. It was not by declaiming on the superstition of the Levantines, or by the eloquent introduction of Peris, Genii, and Vampires, that a strictly pathological question could be decided, nor by false inferences from bad Boards of Health.—The Chairman interrupted Dr. Granville, by protesting against this line of personal attack, and allusion to what had taken place elsewhere. After some desultory observations, Dr. Lynch's motion, somewhat modified, was passed. Dr. Granville then begged leave to propose that the Committee should make application to Her Majesty's Government for a grant to be applied to the purposes of inquiry into the important subject of the contagious or non-contagious nature of plague. This motion passed unanimously, as also one of thanks to Dr. Bowring.

Mr. Goodsir then read a paper 'On the Origin and subsequent Development of the Human Teeth.'

The author has observed dentition commence by the formation of what he denominates the primitive dental groove, on the floor of which the rudiments of the pulps of the milk teeth appear as globular or conical papillæ; septa afterwards pass from the outer to the inner side of the groove, between the papillæ, and thus each of the latter becomes situated in an open mouthed follicle, which is the primitive condition of the future sac. After the formation of the milk follicles, the lips of the groove still remain prominent; and when in this condition he denominates it the secondary groove. The rudiments of the ten anterior per-

mament teeth appear as little depressions in the secondary groove, internal to the mouths of the milk follicles. The papillæ of the milk teeth now begin to be moulded into the form of pulps, a change which is synchronous with the closure of the mouths of the follicles by two or more laminæ, which agree in number, shape, and position with the cutting edges and tubercles of the future teeth. The lips and walls of the secondary groove now adhere, except in the situations of the ten depressions for the permanent teeth, and for a small extent posteriorly on each side, where a portion of the primitive dental groove remains in its original condition. In this portion the papillæ and follicle of the first large molar tooth appear, and, after it closes over, the lips of the secondary groove above it adhere, but not the walls; so that there is in this situation a cavity which produces the sacs of the two posterior permanent molars. The first large grinder may, therefore, be considered in some measure a milk tooth. The author observes, that dentition begins, and is always in advance, in the upper jaw, except in the case of the incisive teeth, which, although they appear first, are later in coming to perfection. This he explains by the tardy development of the lateral elements of the intermaxillary system. The author divides dentition into three stages. The first is one with which anatomists have hitherto been unacquainted, —viz. the follicular. The second and third they are familiar with—the saccular and the eruptive. From his researches, he concludes that the human teeth originate from mucous membrane; that the permanent teeth have no connexion with the deciduous set, and that the sac and pulps must be referred to the class of organs denominated bulbs. He anticipates the discovery of the follicular stage in the dentition of all animals, and if so, that it will explain the varying and complicated forms of the pulp and sacs.

Dr. Dalziel brought before the Section a model of an apparatus for the purpose of promoting respiration during sleep. Its object was to diminish the amount of atmospheric pressure on the surface of the body, while the patient was respiring atmospheric air of the usual density; and this principle might be applied in various diseased states with benefit, and particularly to the recovery of individuals labouring under suspended animation.—On the motion of Dr. Knott, it was resolved that the apparatus be recommended to the notice of the Humane Society, for the purpose of making trial of its efficacy.

A paper, entitled, 'Experiments and Observations on the cause of the Sounds of Respiration,' by Dr. Spittal, was then read.

The object of this communication was to show, that the theory of Laennec, in regard to the cause of the respiratory sounds,—viz. that all those known by the terms vesicular, bronchial, tracheal, as well as cavernous and amphoric respiratory murmurs, are caused by the friction of the air against the parietes of the air cells, bronchial tubes, trachea, and of cavities of different dimensions, has never been proved; and that the few experiments which have been advanced in support of it, are far from establishing the conclusions which have been deduced from them; and that it is highly probable that, according to the theory of M. Beau,* these sounds, either owe their existence to, or are in part produced or modified by, the transmission or reverberation of a sound which takes place in the superior respiratory passages, and which has been termed, by M. Beau, the "guttural" respiratory sound. In support of the first theory, it was observed, that the best and almost the only experiment was that of Magendie, in which air was blown into the lungs by means of a pair of bellows, and in which sounds, resembling the respiratory murmur, were perceived, and from which M. Magendie drew the conclusion, that because air passed to and from the lungs during this experiment, as well as during respiration, therefore, the respiratory sounds are produced by the friction of the air against the parietes of the bronchial tubes and air cells of the lungs. It was stated that the similarity between the sound produced by a pair of bellows, and the guttural sound, was admitted by Laennec; and that it was also observed that a similar sound could be produced by blowing air through almost any tube; differing in tone and degree,

* Archives Generales, Paris, 1834.

according to the diameter or shape of the opening in the tube—the force with which the air is made to issue from it—or the nature of the materials of which it is composed. The experiments of M. Beau, in support of his particular theory, it was noticed, were open to objections, and did not seem to bear out very clearly the conclusions at which he arrives; which may perhaps account for the neglect his view of the subject has met with. For the purpose of obviating these, and showing in a more distinct manner the probable truth of this theory, to a certain extent at least, several experiments were devised, calculated to prove this in a less objectionable manner. In these experiments *no stream* of air was allowed to pass through those parts the subject of observation, which were only allowed to become, and remain distended, with air; while, at the same time, the sound produced by the issuing of the air from an air-condensing apparatus, or from the mouth,—and which very nearly resembled that of the bellows, which again resembles the guttural sound,—was observed to have passed freely, in one experiment, throughout an artery of eighteen inches in length, and to be perceived very nearly, if not quite, as loud in this as in another artery connected with it, and through which a current of air passed. In another experiment, in which the lungs of a lamb were used, sounds analogous to the tracheal, bronchial, and vesicular, respiratory murmurs were distinctly perceived, although no current of air passed along the air tubes or cells; and in the case of a bladder, attached to one of the great bifurcations of the trachea, a sound louder than that in the bronchial tubes was perceived, when the former was contracted to about an inch and a half and two inches in diameter; feebler when larger; and assuming, as its size was increased, a gentle, shrill, ringing, amphoric character. In these different observations, *no current* of air passed along the parts the subject of examination, but was conveyed away in a manner which our space will not permit us to describe. These experiments were not advanced to prove that the guttural sound, or that which takes place in the superior respiratory passages, is the only source of the respiratory murmurs; but to show that in all probability it exerts a considerable influence, if not in producing, at least in modifying, the different respiratory sounds, known as the vesicular, bronchial, tracheal, cavernous, and amphoric respiratory murmurs, all of which have hitherto been explained according to the views of Laennec.

Saturday.—The Section met at half-past 10 o'clock, to hear some papers, which could not be brought forward for want of time at the former sittings.

Mr. Crawford read a paper 'On Anthracosis, occurring in an individual who had worked in a lead mine.'

A conversation ensued as to the prevalence of this disease in the coal mines around Newcastle. The opinions seemed contradictory on the subject.

'On the medicinal and poisonous properties of some of the Iodides,' by Dr. A. T. Thomson.

The principal preparation whose action was detailed was the iodide of arsenic. Different modes of preparation were pointed out, its characters described, and specimens of the preparation handed round. The action of this medicine in very minute doses, from one-eighth to one-third of a grain, was peculiarly serviceable in lepra vulgaris, and chronic impetigo. A case of numerous tumours resembling carcinoma was found to yield to its continued action, and it was found equally successful in a more decided case of incipient carcinoma. Its action as a poison when given in overdose was minutely detailed in a series of experiments on dogs; its action being very similar to that of arsenious acid. Coloured drawings of the morbid effects on the alimentary canal were exhibited; when injected into a vein, its effect was to destroy life by destroying the irritability of the heart.

Doctor Adams read a paper 'On the Placental Souffle,' detailing some remarkable stethoscopic phenomena occasionally heard in connexion with it.

ATHENÆUM.

REPORT OF THE SURGICAL CASES AND OPERATIONS THAT HAVE OCCURRED IN THE MASSACHUSETTS GENERAL HOSPITAL.

From May 12, 1837, *to May* 12, 1838.

BY GEORGE HAYWARD, M.D., SURGEON TO THE HOSPITAL.

(Communicated for the Boston Medical and Surgical Journal.)

In consequence of the absence in Europe of my respected friend and colleague, John C. Warren, M.D., the surgical department of the Massachusetts General Hospital has been under my exclusive care during the past year. The number of patients and operations has not varied materially from that of former years, nor has there been any essential difference in the character of the diseases that have come under treatment.

A report, therefore, of all the cases, will enable any one, who will give himself the trouble to examine it, to form a tolerably just notion of the kind of diseases that are usually met with in the surgical department of this institution.

It may, perhaps, be well to observe, that the hospital cannot conveniently accommodate more than sixty patients. The average number is a little more than fifty; about half of these are medical, and the rest surgical. There are from twenty to thirty free patients; the others pay various prices, according to the apartments they occupy, the lowest sum being three dollars a week.

The number of operations is large, in proportion to the number of patients; as many persons resort to the hospital, from various parts of New-England, for the purpose of undergoing operations.

When I entered on my duties at the hospital, May 12th, 1837, there were 27 surgical patients in the house, and 195 were admitted during the year, making a total of 222. Of these, there were—discharged as well, 86; much relieved, 40; relieved, 38; not relieved, 22; died, 13; unfit, 3; eloped, 1; transferred to the physician, 2; remaining in the house, May 12th, 1838, 17.—Total, 222.

Of the thirteen deaths, it should be observed that ten of them were the result of violent injury; six of the patients died within twenty-four hours of the accident, and the other four lingered from five to eighteen days. Of the three other fatal cases, one was from an affection of the lungs. The patient had undergone an operation for the removal of the breast, by Dr. Warren, in April. The wound, however, had entirely healed. Another died of fungus hæmatodes within the abdomen; and the other of phthisis, having been admitted on account of scrofulous ulcers in the neck.

It may well be doubted whether it is proper to swell the bill of mortality of the hospital, by including in it those who die almost immediately upon admission. They have not at any time been patients of the house, as they are altogether beyond the reach of art when they enter. Of the six of whom I spoke above as dying within twenty-four hours, scarcely one of them was able to swallow after his entrance. By including them among the patients who have died at the hospital, it gives an exaggerated notion of the mortality that occurs there.

The following table shows the diseases and injuries with which the patients were afflicted, who were in the surgical department of the hospital during the last year. It will probably be perceived by this, that the number of cases exceeded, somewhat, the number of patients. This is to be accounted for, in part, by the fact that a few out-patients are included in the table; but more from the circumstance that some persons, who were admitted on account of one disease, became affected with another while in the hospital. This was the case with the eight individuals who had erysipelas, and the two who had eczema. The difference, however, is not important, as there were only sixteen more cases than there were patients, and ten of these were of the two diseases just named.

List of Surgical Cases under treatment during the year commencing May 12, 1837, *and ending May* 12, 1838.—Abscess, 7; abscess, lumbar, 2; ankle, scrofulous disease of, 3; ascites, 1; burn, 2; cancer of breast, 7; cancer of

face, 1; cancer of mouth, 1; cancer of tongue, 2; cataract, 1; contusion, 4; contusion of hip-joint, 2; calculus, biliary, with fistulous opening near umbilicus, 1; conjunctivitis, purulent, 1; deformity from accident, 1; deformity from rheumatism, 1; dislocations of shoulder, 1; dislocations of ankle, 2; eczema, 2; erysipelas, 8; fissure of palate, 1; fissure of rectum, 1; fistula in ano, 5; fistula of urethra, 2; fractures of cranium, 2; fractures of lower jaw, simple, 2; fractures of lower jaw, compound, 4; fractures of clavicle, 1; fractures of spine, 2; fractures of humerus, 2; fractures of olecranon, 1; fractures of ulna, 1; fractures of hand, compound and comminuted, 1; fractures of ribs, 3; fractures of thigh, 6; fractures of patella, 1; fractures of leg, simple, 10; fractures of leg, compound and comminuted, 7; fractures of both legs, compound and comminuted, 1; fractures of toes, compound and comminuted, 1; fungus hæmatodes of antrum, 1; fungus hæmatodes on abdomen, 1; fungus hæmatodes of breast, 1; fungus hæmatodes of muscles in pelvis, 1; gonorrhœa, 2; gryposis, or inverted toe nail, 1; hare-lip, 1; hemiplegia, 1; hemorrhoids, internal and external, 3; hip disease, 6; hydrocele, 1; hernia, femoral, 1; inflammation, local, 4; inflammation of periosteum, 1; inflammation of muc. membrane of bladder, 1; inflammation of hernial sac, 3; inflammation of hernial sac (sloughing), 1; injury, general, from accident, 3; injury, general, from gunpowder, 2; injury, general, from frost, 1; iritis, idiopathic, 1; iritis, syphilitic, 3; iritis, chronic, 1; irritable breasts, 1; knee joint, disease of, 8; mercurial sore mouth, 1; necrosis of cranium, with epilepsy. 1; necrosis of elbow-joint, 1; nævus maternus, 1; neuralgia, 3; opacity of cornea, 1; paraplegia from injury, 1; paraplegia, following dysentery, 1; paronychia, 1; polypus of the nose, 1; prolapsus ani, 2; prostate gland, disease of, 2; retina, morbid sensibility of, 1; scrofula of nose, 1; scrofula of lip, 2; scrofula of glands in neck, 3; scrofula of glands in groin, 2; scrofula of joints, 1; shoulder, disease of, 1; sprain of wrist, 1; submaxillary gland, enlarged, 1; spine, disease of, 1; syphilis, 4; testicle, swelled, 4; testicle, medullary sarcoma of, 1; tinea ciliaris, 2; tumors, various kinds, 4; tumors, ovarian, 1; tumors, hydatid of breast, 1; tumors, chronic mammary, 2; tumors, encysted over patella, 1; tumors, blue, of sclerotica, 1; ulcers, various, 9; ulcers, scrofulous, 3; ulcers, varicose, with varicose veins, 4; ulcers, of throat, 1; ulcers of the cornea, 1; varicose veins, 1; wounds, lacerated, 3; wounds, contused, 6; wounds, punctured, 3; wrist, inflammation of, 1.

On some of these cases I shall offer a few remarks.

Erysipelas.—Only eight cases of this disease occurred in the surgical department of the hospital during the year, and all of them terminated favourably. There has probably not been another year within the last twelve, in which there has not been a death in the hospital from erysipelas. It has been, and still continues to be, a great annoyance. It frequently attacks patients after surgical operations, and those who have suffered from accident, and very often assumes a malignant form.

We are left to conjecture as to its cause. It cannot be from want of cleanliness, for our institution may safely challenge a comparison, in this respect, with any other of the same kind, either in Europe or this country.

It seems, however, to be certain, that the exhalations from the bodies of sick persons, when a number are confined in the same apartment, are capable of producing an atmosphere that will generate the disease, without changing, in the slightest degree, the sensible qualities of the air. I have been led to believe, by observation to some extent on the subject, that this atmosphere was much more readily produced by those patients who had large suppurating surfaces, than by others, who were not affected in this way.

Admitting this to be true, and of its truth I think there can be no doubt, the obvious dictate of common sense is to change the air in the wards of the hospital as often as possible, so as to substitute pure air for that which has been contaminated. This is not so easily effected as at first it might seem to be. It is difficult to do it in the spring and autumn, when the weather is sufficiently mild to enable us to dispense with fires, but at the same time so cool as to require the windows to be closed at night. It is also difficult in winter, without the

consumption of a large quantity of fuel, and probably the best ventilator is an old-fashioned open fire-place, but every one knows that it is not the most economical mode of warming a room. There can hardly be a doubt that erysipelas is much more common in those hospitals that are warmed by furnaces, than in those that are not. The fire is usually allowed to go down at night, the ventilator is frequently closed to keep the apartment agreeably warm, and consequently the patients must inhale for several hours the foul air.

This may not be true in all institutions that are warmed in this way; but it certainly was in the Massachusetts General Hospital. A change in this respect was made the last autumn; the ventilators are now so arranged that they cannot be closed by the patients or nurses; and to render the ventilation more perfect, the upper panels of the doors of each ward, communicating with the entries which are not warmed by artificial heat, were removed, and the holes, thus made, kept open during the winter. Not a death from erysipelas has occurred in the hospital since this change has been made, nor has the disease, during the last year, been of the formidable character which it frequently assumes. More extensive observation, however, is necessary to determine whether this favourable change is owing to the cause to which I have just alluded.

A moist atmosphere is also supposed by some to be favourable to the production of erysipelas. It has been thought to be more common and more malignant in those hospitals in which the floors are frequently washed, than in those in which they are kept clean by dry rubbing. The moisture may have an effect in diffusing the miasmata, and perhaps rendering them active, when they might have been harmless in a dry atmosphere. The floors of the wards of the Massachusetts General Hospital are daily washed, and the air is often more moist than is agreeable.

There are certainly some facts that favour the opinion that moisture has something to do with the production of this disease, but enough is not yet known on this point to enable us to form a satisfactory opinion on the subject.

It may not be amiss to add, that I have seen nothing to lead to the belief that erysipelas is propagated by contagion. I do not mean to say that it never spreads in this way, but merely that no fact has come under my observation, either in hospital or private practice, that gives the slightest countenance to this notion.

It is well known that great diversity of opinion has existed, and still continues to exist, as to the *treatment* of erysipelas. Two very opposite courses have been adopted, and the advocates of each have claimed a great degree of success for their method. One of these consists in administering tonics, particularly cinchona, in some of its forms, from the very beginning of the attack; and the other, in depletion, treating it as a purely inflammatory affection. It is very questionable whether either of these methods is adapted to a majority of cases. There are but few patients, as far as I have seen, that will be benefited by bark through all the stages of erysipelas; and, on the other hand, though depletion is unquestionably highly useful to some at the onset, there are not many who will not derive advantage from tonics before the termination of the disease. In fact, they may be given with advantage earlier, and to a greater extent, than in almost any other complaint. This is particularly true of the class of subjects that are met with in hospital practice, persons for the most part whose constitutions are impaired or broken down by previous disease or excess.

The sulphate of quinine is perhaps the best preparation, and the quantity given should not be less than half a drachm in twenty-four hours; in fact, patients are often benefited by a much larger quantity.

When bloodletting is required, topical bleeding is all that I have been in the habit of using, and this I believe is all that is required. I have not resorted to incisions, though they were much recommended at one time, because it is difficult to limit the quantity of blood taken in this way, and because fatal effects have sometimes resulted from them. Punctures made with a lancet in the inflamed part are equally efficacious, and perfectly safe; but there is no objection, that I am aware of, to the application of leeches, and these I employ to a great extent, and apparently in many cases with very great benefit. They should

be applied on the sound skin, and it is very unusual for the inflammation to extend beyond the part on which they have been applied. This is certainly remarkable, as leeches are supposed occasionally to produce erysipelatous inflammation, especially when applied about the face.

Local bleeding is the only topical remedy that I regard as of much value in the treatment of erysipelas. This opinion may excite surprise. Great confidence is placed by some in mercurial ointment, the nitrate of silver, diluted alcohol, lead water and cold lotions, while others prefer warm applications. I must confess that I have not been able to satisfy myself that any one of these has the slightest power of arresting the disease, nor much in mitigating its violence. My practice, therefore, is to use that which is most comfortable to the patient.

The efficacy of local applications in erysipelas has probably been very much overrated. No one places any reliance on them in measles or smallpox, because they are constitutional diseases; and does not the same reason apply with equal force to erysipelas? Local bleeding is undoubtedly in many cases useful, but this cannot be regarded as a topical remedy only.

In severe cases, the disease is usually preceded by a chill, with intense pain in the head and back, and this is followed by great heat. These symptoms, for the most part, occur before any change takes place in the appearance of the skin.

An active emetic, followed by a purgative, and this succeeded by some mild diaphoretic, as the liquid acetate of ammonia, seem to be the only general remedies that are called for in the first few days of the disease. At a very early period, however, quinine and other tonics, with a generous diet, can be given to advantage, especially to patients of feeble habits of body. Under this course I have often seen the pulse become stronger and less frequent, and the mind lose the wildness which is very apt to attend erysipelas, especially when it attacks the head and face.

A liquid diet, of the mildest possible kind, I believe to be best in the early stages; but if the disease assume a severe form, generous and even stimulating food will be found requisite. Wine, wine whey, wine and water, and malt liquors, are often useful, and in the low forms of the disease, especially in patients with feeble and shattered constitutions, I am confident that I have prescribed alcohol with advantage.*

Fracture of the Lower Jaw.—Six cases of this accident were admitted into the hospital during the year. Two of them were simple, and four compound fractures; and I should think that this was not far from the usual proportion, judging merely from my own practice. The jaw is covered on the inside with so thin a layer of soft parts, that the injury which is sufficiently violent to cause the fracture, is in many cases powerful enough to lacerate these.

My purpose in noticing these accidents, however, is to speak of a simple mode of treatment, which is applicable to many cases, and which I have frequently found very efficacious. When the bone is not comminuted, and there are teeth on each side of the fracture, the ends of the bone can be kept in exact apposition by passing a silver wire or strong thread around these teeth, and tying it tightly. In several cases of fracture of the jaw, in which the bone was broken in one place only, I have, in the course of the last few years, adopted this practice with entire success, and without the aid of any other means. It will be found very useful, also, as an auxiliary, in more severe cases, in which it may be required to use splints and bandages, or to insert a piece of cork between the jaws, as recommended by Delpech. It requires some mechanical dexterity to apply the thread neatly; but in large cities we can avail ourselves of the skill of dentists for this purpose, and I have in this way been frequently indebted to the ingenuity of my friend, Dr. Solomon Keep.

Fractures of the Thigh.—When this accident occurs below the middle of the bone, it is usually treated at the hospital by extension and counter-extension. The apparatus used for this purpose is a modification of Dessault's, the modification consisting principally in the adaptation of a screw to the cross piece which

* I am happy to state that not a case of erysipelas has occurred in the hospital during the last six months.

connects the splints together at the bottom, and to this screw is attached the band or sock which passes around the ankle. By this means the extension is made more in the direction of the axis of the bone, than by the original machine, and the fractured surfaces are consequently brought more in contact.

The objections that are often made to this apparatus, I have not found to hold good to any extent in practice. It rarely produces much irritation in the perinæum; I have never seen ulceration there but once from this cause, and this was in a patient of a peculiarly irritable habit. It is more apt to give trouble about the ankle, on which the extending band is applied, and I have seen the heel ulcerate and slough in a few cases. These ulcers are exceedingly obstinate. Something, no doubt, may be done to prevent them by careful attention, but they will occasionally occur, even when the utmost vigilance is employed.

Another inconvenience which sometimes follows the use of this apparatus, is the stiffness of the knee. I have never known this, however, to be permanent; but it often continues several weeks, and is in some instances quite troublesome.

Notwithstanding these objections, I prefer this apparatus to any other that I have ever used for treatment of fractures of the shaft of the thigh bone, below the middle. Fractures of the condyles of course require a different mode. In the great majority of those cases which I have seen treated in this way, there was but little if any shortening, deformity or lameness, and the patients hardly suffered at all while under treatment.

I am aware that writers urge many other objections to this apparatus, but I feel confident that most of these are theoretical, and are advanced by those who have never given it a trial, or have used it perhaps in cases where the fracture is high up, and in which I have no doubt that other means will be found more useful.

Mr. Amesbury's apparatus for fractures in the lower half of the thigh bone, I have never employed, merely because the one I was accustomed to answered the purpose so well.

It must be admitted, however, that in fractures of the upper third of the thigh, the modified apparatus of Dessault does not do so well as when the bone is broken lower down. This is especially true in fractures of the neck of the bone, either within or exterior to the capsular ligament. Some have supposed that when the fracture is entirely within the ligament, bony union never takes place, whatever treatment may be adopted. But this is not correct, for there are well authenticated cases to the contrary. It is no doubt difficult to effect bony union in this accident, because the head of the bone, when thus detached, is nourished only by the vessels of the round ligament, and because it is not easy to keep the fractured surfaces in contact and the parts completely at rest. But even ligamentary union will be much more complete if these circumstances are attended to, than if they are neglected; for if the parts are not kept together, the ligament will be much longer than it otherwise would be, and the limb consequently less useful.

When the fracture is high up, there are of course more muscles inserted into the lower fragment, and consequently there is greater danger of displacement, than when the fracture is lower down, and it is also more difficult to confine the pelvic portion of the thigh bone. Something more than mere extension and counter-extension is frequently necessary to bring the fractured surfaces in apposition under these circumstances; and it is very important that steady pressure should be made so as to keep them in close contact. Every one, who is at all familiar with the treatment of fractures, knows how great a power pressure exerts in bringing about a bony union.

Now Dessault's apparatus is not calculated to make this pressure, and some have thought that in fractures of the neck of the thigh bone, the inner splint is apt to separate the fragments by pushing the lower portion outward.

There are other indications which are not perfectly answered by this machine, when the fracture is high up. But it is unnecessary to speak of these, as it is not my object to make a treatise on the subject, but merely to notice an apparatus which I think accomplishes the intention of the surgeon more completely than any other that I have ever seen. This is Mr. Amesbury's fracture-bed. I shall not attempt to describe it, as no description would be intelligible without

drawings, and its construction is so simple that it would be readily understood by any one who wished to use it. It is adapted to all fractures of the thigh, occurring in the upper third of the bone, requiring slight modification in each case, and so constructed that the part on which the thigh is to rest can be made longer or shorter, as may be necessary to adapt it to the size of the patient. During the last year I have used it several times; in one case of a fracture of the neck of the bone within the capsular ligament, and in another of the neck exterior to it. Both of these did well. There was scarcely any lameness or shortening of the limb, and the patients suffered but little while under treatment.

There was recently a patient in the hospital with a fracture just below the great trochanter, who used this fracture-bed. He was placed upon it immediately after the accident, and kept there five weeks, and was perfectly comfortable during the whole time. He has recovered the entire use of his limb, without any perceptible lameness or shortening.

Gonorrhœa.—But few patients with this disease or syphilis come to the hospital. None are received there on free beds; and from those who pay, something more is required than from those labouring under other diseases.

For several years past I have laid aside entirely injections, in the treatment of gonorrhœa, and have substituted for them balsam copaiva, or cubebs, or both, according to circumstances. I have rarely found copaiva alone sufficient for the management of the disease. It very frequently produces an annoying cutaneous eruption before it has effected the purpose for which it is given, and we are obliged to lay it aside. Cubebs has been more often successful in my hands. This I give in doses varying from a scruple to a drachm, three times a day, in powder. It may be given at the beginning of the disease, and instead of increasing the ardour urinæ, it usually lessens it.

When cubebs alone does not succeed, I have frequently found a combination of it with copaiva very useful. I have rarely known the following preparation to fail in removing the disease. R. Pulv. gum. acaciæ, pulv. cubeb, balsam. copaib. aā ℥ij.; aqua cinnamon. ℥xvi. M. From half an ounce to two ounces of this mixture should be given twice a day, and it should be administered as soon as the complaint is discovered. The only objection to it, that I am aware of, is that it is so extremely nauseous, that many persons find it difficulty to take.

It is a common notion that strictures in the urethra, which are so frequent after gonorrhœa, are produced by the injections that have been used. And this, no doubt, is oftentimes the case. But I have more than once met with a stricture consequent on gonorrhœa, where no injection had been used, the complaint having been removed by internal remedies. Whether these were cases of uncommon severity, I cannot say, as they did not occur in my own practice. It is probable, however, that they were, and that the stricture was the result of the effusion of fibrin, which it is well known sometimes takes place when the mucous membranes are highly inflamed.

Inflammation of the Hernial Sac.—The four following cases came under my care during the past year. They were new to me, and I am inclined to think that they will be so to most of my readers, as I can find no description of precisely similar ones in any work which I have consulted.* I regard them all as

* The following case, in Mr. Mayo's excellent work, "Outlines of Human Pathology," has a strong resemblance to them.

"A patient (a recent case in the Middlesex Hospital) had all the symptoms of strangulated hernia; there was a small tumor, feeling like an omental hernia, at the crural arch. The patient had a swollen and tender belly, and stercoraceous vomiting. Repeated attempts had been made to reduce the rupture, which the patient said was considerably larger before these attempts had been made. The bowels had acted twice with enemata. I did not attempt to return the tumor, but operated immediately, when I found an *empty sac;* I divided the neck of the sac. The patient died in thirty hours. On opening the abdomen, the upper part of the small intestine was found distended, swollen and inflamed. A segment of a portion of the ileum, which had been down, was deeply discoloured, and retained the impression of the close grip of the neck of the sac. It had been forced back into the body, before the performance of the operation, by the taxis, too much injured for recovery, through the length of time it had been strangulated. The tumor upon which I operated was the sac, with thickened adipose matter partially surrounding it."

inflammation of the hernial sac, having many common features of resemblance, and differing from each other only as they were in different stages of inflammation. In one of them the sac was gangrenous; in the second, fibrin was effused in abundance, but no pus formed; in the third, suppuration took place; and in the fourth, the inflammation was so much reduced, that it no doubt terminated by resolution.

These cases will be best understood by giving the hospital record of each, made at the time, and I shall present them in the order in which they occurred.

Case 1st.—Michael Murphy, æt. 40. Married. Labourer. Irish.

July 20.—States that since childhood he has always had an inguinal hernia of the left side, easily and entirely reducible at all times—never any incarceration that he is aware of. Six days since was attacked with pain in the abdomen, about umbilicus, described as colic—got some cathartic medicine, which operated. Three days ago hernia came down, and has not been able to reduce it since. Has been bled twice, and the taxis attempted by several without success. Has not had much pain in the tumor. No vomiting. Took salts yesterday, which operated.

Now, pulse 88, of moderate strength. Tongue, white coat on lobes, moist. Strength good. No sickness. No pain, nor tenderness of epigastrium. Some tenderness in left iliac region, less in right. On examination, on the left side there is an inguinal hernia—the size of two clenched hands—to the touch hard, without resonance. Integuments slightly reddened. External ring tightly girt around the neck of the tumor, which is remarkably large and firm. Some pain upon pressure. Hernia probably omental.

A purgative enema was first given, which came away without operation. The taxis was then attempted in the warm bath, but without success, although the size of the tumor was somewhat diminished.

The patient was then ordered the following—R. Ol. crot. tig. gtt. i.; jalapæ, q. s. Ft. pil. no. i. Every four hours till free operation. Ice to be assiduously applied two hours. A consultation to be called for to-morrow at 11, A. M., to decide on the propriety of operating under the present circumstances.

6, P. M.—Four full dejections after one pill. No reduction of tumor. Pulse as before. Apply bitter fomentations through night.

21.—Scrotum œdematous at bottom. Tumor still the same. Pulse 88. Very little pain. Slept part of night. A consultation being held, it was decided to perform the operation.

11, A. M.—Operation by Dr. Hayward. Patient being placed upon the table, an incision was then made from the edge of the ring two thirds down the tumor, dividing the integuments. The different fasciæ, which were much thickened, were then divided on a director in the usual manner. The sac being thus exposed, was opened; it was one quarter of an inch in thickness. On opening the sac a gangrenous odour was emitted, and on further examination nothing was found in it. But the sac itself was in a gangrenous state. It was then decided to remove the sac, which was accordingly done, though with much difficulty, on account of the numerous and strong adhesions. In the removal of the sac, the tunica vaginalis testis was punctured, and about ℥ij, of the water of a hydrocele escaped. Several arteries required ligatures, principally in the cellular membrane of the scrotum. The remaining portion of the sac bleeding freely, a ligature was placed round it. The finger passed into the ring detected no stricture. The edges of the wound were then brought together and retained in place by a single suture. Adhesive plaster, pledget, dry lint, compresses and a T bandage completed the dressing. The patient was then conveyed to bed.

22.—Some pain in back yesterday, P. M. Slept pretty well in night. Now quite easy. Pulse 88. No tenderness of abdomen. Tongue, thin white coat as before. No pain in bowels. No dejection. R. Ol. ricini, ℥i.

23.—After oil five dejections. Night quite comfortable. Now, skin of good temperature. Pulse 88. Tongue as before. No tenderness or fulness of abdomen. The whole of scrotum, together with testicle, swelled to five times the natural size; on right side œdematous, without pain. Upper part of wound open, discharging considerable offensive serous fluid. Portion of cellular membrane, &c. in a gangrenous state. Yeast poultice to upper part of wound.

24.—Continues comfortable. R. Ol. ricini, ss.

25.—After oil two dejections. Continues quite comfortable. Swelling of right side of scrotum quite gone; of left side less, still hard, as if testicle enlarged. Sloughs separating. Much thin yellowish discharge. No pain. Pulse 84. Tongue cleaner.

26.—One dejection yesterday. Continues much the same. Copious discharge of bright orange fluid from wound with escape of gas on pressure, probably from the sloughing of the cellular membrane. If no dejection at 2 P. M., oil ℥ss. Rice and milk.

It is unnecessary to give any more of the hospital record. The patient continued steadily to improve, the wound healed completely, and on the 12th of September he was discharged "well."

This case, it will be perceived, was taken for omental hernia. It is true, however, that coughing did not give any impulse to the tumor when the hand was placed on it. But this was the only symptom that was wanting, and the absence of it was accounted for on the supposition that the omentum had formed strong adhesions to the neck of the sac, and that the tumor was in this way, as it were, insulated.

An operation seemed to be called for, as the tumor was increasing in size and tenderness, rendering the patient unable to stand, except for a minute or two at a time, and producing a great degree of œdema of the scrotum on both sides, which it was feared might terminate in sloughing.

The result, perhaps, may be thought to have justified the course that was adopted. If the case had been left to the efforts of nature, there would have been extensive, if not fatal sloughing, even admitting that the patient could have escaped peritoneal inflammation, which was, no doubt, very much to be apprehended.

How far this state of the sac might be attributed to the attempts made to reduce the hernia, it is not easy to say. But it is certain that these were not great or long continued after the patient was admitted into the hospital, and it will be seen by the third case that very severe inflammation of the sac may come on spontaneously.

The second patient was admitted into the hospital before the first was discharged, and his case is thus entered in the records of the house.

CASE 2d.—Edwin Beard, æt. 19. Single. Hostler. Boston.

July 31.—Patient reports—that he has had a small inguinal hernia of the left side about one year. Has worn a truss, which, however, has not fitted him, the hernia occasionally escaping. Three days since, the tumor appeared, and has not been reduced since. Has worked till this morning, when he went to consult a truss-maker concerning a new truss, who advised his entrance here. Has had no constipation, no vomiting, and no symptoms of strangulation. No pain in tumor before to-day, and that only after being handled by several persons, who attempted to reduce it.

On examination—tumor the size of a hen's egg at the left inguinal ring, firm, elastic, slightly tender. Neck of tumor girted by ring. No impulse on coughing. Cellular membrane of scrotum somewhat infiltrated. Pulse 64, of good strength. Tongue clean. Bowels open this morning. Purgative enema now. Twelve leeches to tumor. Liquid farinaceous diet.

August 1.—Slept quite well in night. Tumor as yesterday. Very slight pain. Two copious dejections. No tenderness of abdomen. Eight leeches to tumor.

2.—More swelling of tumor. More redness. Rather more tenderness and pain. Pulse and tongue as yesterday. No dejection. R. Sol. mag. sulph., ℥iij. Poultice to tumor thrice daily.

3.—More pain in tumor. Size increased. More redness. More tenderness. Considerable œdema of scrotum. Otherwise well. Appetite good. May have broth.

4.—Pain in tumor greater. Size, redness, tenderness, &c. increased. Tenderness especially about ring. Pulse 88. Tongue, thin white coat. No tenderness of abdomen. Bowels open. Appetite good.

5.—Some œdema of tumor, pain, &c., as yesterday.

7.—Size of tumor less. Œdema still. Indistinct and uncertain sense of fluctuation. Otherwise well.

9.—Tumor rather diminishing. Tenderness less. Appearance of inflammation less. Otherwise well.

11.—Considerable diminution of tumor. Tumor at present about three inches in length, very firm, no indication of suppuration. Tenderness much less. Testicle plainly distinguished below tumor. Some œdema of scrotum. Pulse and tongue good.

17.—Swelling much diminished. Now firm, hard, not tender. Scrotum quite free from œdema. Otherwise well. Omit poultice. Apply the following lotion. R. Ammoniæ mur. ℥ss.; aceti, aquæ, āā Oj. Ft. sol.

18.—Tumor perceptibly diminished since last report.

23.—Tumor diminishing and softening. Otherwise well.

27.—Tumor the size of a walnut, or perhaps a little larger; quite hard. Otherwise well.

30.—Tumor much the same. Apply empl. hydrarg. 3 by 2.

31.—Veins of scrotum and spermatic cord somewhat distended. Otherwise the same.

Sept. 1.—Tumor softening and diminishing. In other respects well.

5.—Redness increased by walking. No impulse on coughing. To wear suspensory bandage.

7.—Discharged well.

Case 3d. Thomas Dancaster, æt. 40. Single. Seaman. England.

February 8.—Patient reports—about twelve months ago noticed a small tumor, referred by him to the situation of the external abdominal ring of the right side, easily reduced by himself, and often returning into abdomen on lying down. Tumor was about "as large as the end of his thumb," and has appeared several times since, especially if his bowels became costive, as they frequently were, but he thinks not after any unusual exertion. Sometimes it did not come down for two or three months. Tumor has not been in the least painful or tender at any time till February 2d, nor has it incommoded him in any way.

February 2.—Patient sailed from Eastport, Me., and exerted himself in pulling ropes, &c., but not more than was usual with him, and about midnight was seized with severe pain across upper part of abdomen and about umbilicus, and towards morning with pain in right iliac region, the pain elsewhere ceasing. Since then, the tumor has been constantly increasing in size, pain and tenderness. On night of sixth, when he arrived at Boston, the tumor, he thinks, was not larger than an egg, but since has increased very rapidly. Has had little or no sleep for three nights past. Appetite has been impaired by pain, but has had no chills, headache or nausea. General health has always been pretty good. When on shore has been in habit of using ardent spirits freely. Has never worn a truss.

Now, pulse 66. Appetite small. Tongue slightly coated. Five dejections yesterday, after salts. Much pain in tumor. Upon examination, a large tumor, commencing about two and a half inches within and one inch below right superior spinous process, and running obliquely downwards and inwards, and terminating just above the testicle, being five inches long, and three inches broad at widest part, having a straight and abrupt face outwards, but inwards gradually rounding off towards hypogastrium, having a decided fluctuation across its middle. Integuments œdematous, with a blush of redness, and somewhat tense. Much tenderness on pressure. No impulse felt on coughing, but pain is increased by it. R. Sol. mag. sulph., ℥iij. and repeat if need. Eight leeches to tumor. Large poultice after leeches. Milk and vegetable diet. Horizontal posture.

February 9.—Experienced much relief of pain after leeches. Slept but little, was restless. Now tumor quite tender, but less painful than at entrance, and rather more fluctuating. Four dejections.

20.—Fluctuation now very decided. Slight pointing about middle of tumor, near its outer edge. Slept but little from pain. Tenderness increased. Pulse 68. No dejection. R. Sol. mag. sulph., ℥iij., and repeat if need.

11.—Slept but little, restless in the night, and had considerable pain. Early this morning abscess broke spontaneously, and discharged freely, perhaps ℥iij. in all. Discharge thick, purulent, with some coagula, rather dark and slightly fœtid. Tumor now diminished, less tender, but little painful, redness less. Appetite improved, No headache. Six dejections, at least, after two doses.

12.—Has had but little pain. Slept well. Appetite pretty good. Two dejections. Tumor less, but slightly tender, not painful, quite hard in most parts.

14.—Doing very well. No pain. But very slight tenderness in tumor. Little discharge. Slept well. Appetite good. One dejection. Simple dressings.

15.—No dejection. No pain. Discharge scanty. R. Sol. mag. sulph., ℥ij., and repeat if need.

23.—Abscess almost entirely healed. Slight tenderness just opposite spine of pubis on outer edge. Some induration. Walks about, though not with perfect ease.

March 9.—Abscess entirely healed. No tenderness. Some induration for about one inch below abdominal ring. Impulse or motion of intestine felt on grasping remains of tumor close to ring. No trouble in walking or stooping.

20.—Discharged well.

CASE 4th. Daniel W. Bemis, æt. 38. Married. Sailor. Boston.

March 2.—Patient reports—his mother told him that thirty years ago he had a fall, striking right iliac region upon the corner of a table, and that a swelling ensued soon or immediately after in the situation of the inguinal ring; but patient himself recollects nothing of the fall, or of the tumor till twenty years ago, since which time he has always worn a broad canvas belt round pelvis, passing over the face of the tumor, and prevented from slipping upwards by a thigh strap. During these last twenty years tumor has varied in size from a "pigeon's egg to a hen's egg," and at all times has felt soft and elastic, yielding readily before the finger, but instantly resuming its former shape on removing the pressure. Never has been tender to the touch, nor red, nor painful. Tumor would attain its largest size only in wet stormy weather, and would return to its smallest size on the return of fair weather. Patient has never experienced any inconvenience in straining or lifting, and would only be reminded of increased size of tumor by its pressure on the belt, and has not been subject to cramps in bowels.

February 25th, P. M., felt an unusual degree of pressure against belt, with a sharp, cutting pain in situation of tumor, patient at the time sitting perfectly still, and not having exerted himself previously. Went up stairs and removed belt without relief, and then undressed and went to bed. Soon after, while lying on left side, and pressing forcibly on tumor with the ends of fingers of both hands, he heard a rumbling gurgling sound, and at the same time felt something shoot suddenly down from between the ends of his fingers into the scrotum accompanied by a sensation of tearing in part. Pain continued sharp and steady through night of 25th, and through the next day, and ceased almost entirely after this, except on night of 27th, as will be stated. On morning of 27th had one small, hard dejection, the first since attack. Had had one dejection the day previous to attack. On night of 27th was attacked with cramp, which was soon followed by nausea and vomiting, and considerable pain in tumor, and vomited about a quart of yellowish watery fluid, pain continuing by spells through night. On 28th, early in morning, took one ounce of salts, which were followed by eight or nine dejections, and yesterday morning half an ounce of salts, which operated freely last night and this morning. Has had no pain since night of 27th, and no appetite since 25th, and has experienced no inconvenience for last two days, except from operation of medicine. Tumor has been quite tender during the whole time, and has been constantly covered with fomentations. General health has always been good. Has not been to sea for the last twelve months, and latterly has used spirits very freely.

Now, pulse 70. No appetite. Tongue slightly coated. Says he feels perfectly well, excepting slight pain at upper and lower parts of tumor, where there is some tenderness. On examination, tumor commences at abdominal ring, and extends downwards and inwards to the bottom of the scrotum, being

six inches in length by measurement, and having a general resemblance, in shape, to a large pear—base somewhat flattened, measuring four inches from before backwards, and three inches from side to side. Tumor nowhere feels indurated. Portion occupying scrotum is very yielding to the touch, elastic, and decidedly fluctuating. Upper portion more resisting, and giving a slight impulse on coughing, but perhaps only what would be communicated by the motion of the integuments, &c. No impulse on grasping lower part of tumor. Slight blush of redness over base of tumor. Scrotum not tense, but corrugated. Testicle not to be felt, which, by report of patient, has never descended into scrotum as low as the left testicle, it remaining just at the side of the commencement of the penis. Patient thinks it is smaller than the other, and that it was injured in his fall. Ten leeches to base of tumor. Poultice after leeches. Milk and vegetable diet. Horizontal posture.

3.—Has had no pain since leeches. Sleeps well. Tenderness entirely gone. No perceptible alteration in tumor. No appetite. No dejection. Pulse 72. Keep tumor constantly wet with the following—R. Ammoniæ mur. ℥ss.; aceti, aquæ, āā Oj. Ft. sol.

4.—Last evening complained of some griping pains in bowels, and got sol. mag. sulph. ℥ij., since which has had one dejection. Slept well. Has had no pain in tumor, which is evidently diminished in size. No tenderness. No redness. Feels perfectly well.

5.—Two dejections yesterday. While in water closet, about half past five, P. M., having the last dejection, during which he kept a steady pressure on the tumor with both his hands, he felt considerable pain in situation of abdominal ring. Upon returning to bed, and lying on back, in a few minutes he felt a dragging or pulling pain in right lumbar region—and on drawing up his knees, and while still pressing on tumor with his hands, it suddenly shot upwards into abdomen with a gurgling noise. Had slight pain about ring for a short time, but slept well. Now, greater prominence than natural, from ring to top of scrotum, but no induration. Sac felt extending about one inch below ring; and on coughing, the motion or impulse of a short loop of intestines is felt. Intestine can be readily returned into abdomen, and the index finger easily passed into the abdominal ring, which is quite large. Testis now felt opposite roots of penis; is rather tender. Discharged well.

It must be admitted that there is some obscurity about these cases, but the supposition that in all of them the hernial sac was inflamed, seems to explain them better than any other. It is true, that the sac does not ordinarily take on inflammation to any considerable extent; at any rate, it rarely becomes thickened by it. In cases of strangulated hernia, in which the operation is performed, we often find the sac very thin, and semi-transparent, as much so as in health, though it may have been subjected to a great degree of pressure in the attempts made to reduce the hernia. On the other hand, it is certain that in the first case the trouble consisted solely in inflammation of the hernial sac, which had become excessively thick and gangrenous. There was no protrusion of omentum or intestine, and there was no strangulation; and yet this case had more marks of hernia than any of the others. It proves, unequivocally, that the hernial sac can undergo changes of an important character, such as are calculated to render the diagnosis difficult; and these changes seem to be the result of inflammation, which may come on spontaneously.

All these patients had, for some time before they came under treatment, been subject to hernia; in all of them the tumor was small, extending but little if at all beyond the external ring, occupying the inguinal canal. From some cause, a protrusion, to a considerable extent, of some of the abdominal contents took place, carrying before them, of course, the hernial sac; in two of the cases there seems to have been, for a short time, some symptoms of strangulation, which soon passed off; but in all of them, the contents of the sac, whatever they may have been, were no doubt returned into the abdomen.

There was in the first case the most satisfactory evidence that the tumor consisted solely of hernial sac. It was cut down upon and laid open; it contained neither omentum nor intestine; but it was inflamed, thickened and gangrenous.

In the second case there was no well-marked symptom of strangulated hernia, or even of reducible hernia. There was no impulse on coughing; no constipation; no vomiting or nausea; and no pain, except in the tumor. The outline of the hernial sac could be distinctly traced with the hand, and its upper part was tightly girt by the external ring. Under an active antiphlogistic course it was gradually reduced in size, but the sac could be still felt, though it became thinner, and much contracted; the pain subsided, and the patient found no inconvenience in resuming his ordinary avocations.

The circumstances attending the third case enabled me to form a satisfactory opinion of the precise nature of the difficulty. When the contents of the abscess were discharged, the finger could be passed in at the opening, and the hernial sac could be distinctly traced up to the abdominal ring. As the inflammation went off, the sac contracted; but it could be plainly felt in its whole extent, though much reduced in size, at the time the patient left the hospital.

The sudden reduction of the tumor in the fourth case throws over it some degree of obscurity, as it is not usual for the hernial sac to be returned after it has once been protruded from the abdomen. This may, however, happen. Some operators reduce it, when it can be done with ease, in the operation for strangulated hernia; but it is a practice by which nothing is gained, which is in some degree hazardous, and which consequently should not be imitated.

There are instances on record, also, in which it has been reduced by taxis; and this is much more likely to happen when it has been recently protruded, than when it has been of long standing, as there is of course much less probability of the existence of adhesions in the former than in the latter case.

The "gurgling noise" which the patient said he heard at the time the tumor was reduced, might have proceeded from the intestine which was in the upper part of the sac, as a small portion of the intestine could be felt near the ring after the reduction, which could be readily returned into the abdomen, and which no doubt went up at the time he reduced the tumor.

It must be admitted that in ordinary cases, in which the hernial sac becomes thickened by inflammation, the interior of the sac remains unchanged, differing, therefore, in this respect, from two of the cases just related. But, on the other hand, it is well known that some of the serous membranes, when inflamed, are not only thickened, but covered by a false membrane. This is the result of acute inflammation, such as took place in these cases, wholly unlike that which usually occurs in old hernias, and which is altogether of a chronic character.

[To be continued.]

PHYSIOLOGICAL ACTION OF LEAD,

BEING THE SUBSTANCE OF A LECTURE DELIVERED AT THE BLENHEIM-STREET SCHOOL OF MEDICINE,

By Robert D. Thompson, M. D., *London.*

WHEN we pour a solution of acetate of lead in distilled water into Thames water, or when we drop a crystal of acetate of lead into the same liquid, you observe that there is an immediate precipitate, which subsides in the form of white flocks, and as long as the solution continues to afford a precipitate, you cannot detect any acetate of lead in the filtered liquor, at least in an uncombined state; for if you pass a current of sulphuretted hydrogen through the filtered liquid, which you know is the usual method of separating lead from its solutions, you never can obtain lead (if at all) free from animal or vegetable matter. This property which acetate of lead possesses, of precipitating animal and vegetable matter, that is, of forming compounds with them, which are insoluble in water, renders it indispensable in purifying fluids from these bodies, and is peculiarly serviceable in pharmacy, when we wish to obtain the alkaloids in a state of

purity. I have also employed it for obtaining approximations to the quantities of animal and vegetable matters in different kinds of water, so as to be able to exhibit, in some degree, their relative purity.

In India, as in this country, the causes of diseases have been attributed to every possible source, just as the imagination of the speculator brightened up. I recollect that upon one occasion cholera having broke out with great virulence at Bombay, the impure water of the tropics was immediately set down as the cause of it; the disease, however, was limited in its range, and in the course of a short period it entirely subsided. Now at this very time thousands of persons were in the habit of drinking the same water with impunity, and those who recovered from cholera used the same water before, during, and after their attack, without having any relapse. To prove, however, the fallacy of the opinion in an appreciable manner, I took equal weights of Thames water and the tank-water of Bombay, added to each a solution of acetate of lead, till all precipitation ceased, threw the precipitates on a filter, and washed and dried them; by heating these precipitates strongly the organic matter was drawn off, and the metallic lead remained behind; this, when weighed, was always more considerable in the case of Thames than of Bombay water, from which it was inferred that a greater quantity of organic matter was contained in the former than in the latter, and hence an inference of the erroneous nature of the opinion, which ascribed a greater impurity to Bombay than to Thames water. The latter, in fact, contains more organic matter than any specimen which I have examined, even from the most frequented tanks of India, where the inhabitants are constantly bathing, and stirring up the sediment from the bottom. If Bombay water, therefore, so readily produced cholera, we should expect that Thames water would more powerfully occasion the disease; but all those who have experienced the use of Thames water in long voyages. can bear testimony to its wholesomeness and its exceedingly agreeable taste. It possesses a sweetness which I have never experienced in any other. The great affinity existing between lead and organic matter in solution is of great practical import; for example, it is usual to order a certain number of grains of acetate of lead to be dissolved in water, when it is to be employed as a lotion. Now, if you were to employ water containing organic matter, or carbonic acid, you cannot regulate the strength of your solution without determining first the quantity of these impurities which it contains; if you were unable to procure distilled water, rain water, or spring water, which are pure, in the order named, you might employ Thames water, first adding acetate of lead to it as long as a precipitate fell, and then filtering it through blotting-paper. The filtered liquid might then be employed to dissolve acetate of lead to any strength required. A similar remark applies to nitrate of silver, which should always be dissolved in distilled water, never in Thames water, unless with the precaution here given, because it is decomposed both by the common salt and by the matter contained in the water.

Now it is to be remarked, that when acetate of lead is added to a liquid containing organic matter, the whole of the lead unites with the organic matter as long as there exists any of the organic matter in the liquid; that is to say, if you were to add three grains of acetate of lead (which we shall suppose requires six grains of organic matter to precipitate it) to a solution containing eight grains of organic matter, the whole of the lead would be thrown down in a solid form, and two grains of organic matter would still remain in solution.

Keeping these actions in view, the following case will be interesting, which occurred at University College Hospital, in December, 1836:—

Case.—Sarah Crabbe, a young woman, aged 18 years, was brought to the hospital in a coach, and while she was carried out of the coach she drew a deep sigh, and expired. It appeared from the evidence taken before the coroner, that she had been in low spirits about a love affair, and that she had drunk the same morning a quantity of sugar of lead and alum dissolved in water, which she had bought to do her gown with, and that the same evening she left the house in Drury-lane, where she was residing, and walked to Camden Town, to the house of a nurse, with whom she was acquainted, and there swallowed a pennyworth of nux vomica, in the temporary absence of the nurse, having previously purchased the poison of a druggist in the neighbourhood.

Mr. Taylor, of the hospital, was so good as to send me about a fluid ounce of the contents of the stomach; the matter was of the consistence of treacle, had a strong smell of acetic acid, and reddened litmus test paper. I readily detected lead, which I now show you, and strychnine, but could obtain no trace of alumina; hence, in a short notice of the case which was published at the time, I remarked, that "all the alum had been carried away from the stomach, while much of the lead which had been swallowed along with the alum nine hours before death, still remained.

These facts prove that lead, by its combination with the vegetable and animal matter in the stomach, becomes a somewhat permanent resident in the viscus. How is it detained? Is it by its combination with the coats of the stomach, or by getting imbedded in the folds of this organ? A rather interesting inquiry also results from these facts, viz., relative to the state in which the lead swallowed in the form of acetate of lead as a remedial agent, exercises its therapeutic powers. Can it be in the form of acetate of lead after that salt is thoroughly acted on by the vegetable and animal matter?

From these considerations it appeared to be impossible that the idea promulgated by Dr. Anthony Todd Thomson could be correct, viz., that salts of lead only produce death when they are reduced to the state of carbonate. The view which appeared to me the correct one, was that death would only be occasioned when the quantity of animal matter decomposed was so great as to produce disorganization of organized membranes, and that if it could be reduced to the state of oxide without combining with organic matter, it would be carried off without injury to the animal economy.

In a lecture, by Dr. Sigmond, lately printed in THE LANCET, the author states that he differs in opinion from Dr. A. T. Thomson, but without giving us the grounds of his opinions. As he has also omitted any notice of the recent important experiments upon the animal structure with lead, and as the subject is one of experimental and not of argumentative investigation, I shall make no apology for presenting you with a summary of the excellent observations of Dr. C. G. Mitscherlich, of Berlin, published in Müller's Archiv. für Anatomie," &c., Heft IV. and V., 1836, which only came into my hands last year.

1st. *Action of Acetate of Lead upon Albumen, &c.*—When acetate of lead is added to a solution of white of egg, a precipitate is immediately produced, which dissolves in an excess of albumen, and also by the addition of an acid; filtering the precipitate, the liquid which passes through the filter contains a compound of albumen and lead in solution. Hence there are two compounds, at least, formed; one soluble, and the other insoluble in water. Similar results take place with casein, salivary matter, osmazoin, and the pepsin of Schwann, while no compounds are formed with fibrin and glue.

2d. *Action of Acetate of Lead upon the Solids and Fluids of the Body.*—When a solution of acetate of lead is poured upon a muscle the latter becomes white, and the whiteness penetrates into the substance of the muscle in proportion to the quantity of acetate of lead; this is a new compound, formed between the matter of the muscle and the acetate of lead; other metallic salts form analogous compounds. When acetate of lead is applied, in small doses, to the intestinal canal, it is completely decomposed by the secretion from the mucous membrane, but when it is administered in large doses, the secreted fluid is entirely decomposed, and the excess of acetate of lead penetrates to the living surface of the membrane, and combines with it, and what is termed in common language corrosion takes place. The same result is equally produced on a dead or living mucous surface, or upon the conjunctiva, in wounds, on the skin, on raw surfaces, in cellular tissue, nervous or muscular fibres. When solution of acetate of lead is introduced into the circulation, the water of the blood is precipitated by the metallic salt,—the blood globules are not affected, except that they are no longer completely transparent. The effect upon the blood seems to be the combination of the albumen with the acetate of lead.

3d. *Experiments on Animals.*—The result of these experiments was, that when to rabbits half a gramme (seven and three-fourths grains) of acetate of lead dissolved in distilled water, was administered daily, the animal died after ten—

twelve doses (seventy-seven and a half—ninety-three grains), with corresponding alterations of the structure of the internal membranes. The first doses did not produce much effect, except that less feculent matter and urine were voided. After the six—seven doses the animal became weaker, lay more frequently on its belly, and in some cases was affected with spasms, which subsequently disappeared. The weakness daily increased, the excretions diminished, respiration became oppressed, and death took place, accompanied with episthotonos. On dissection the stomach was found to contain a yellowish fluid, which possessed an acid reaction, and in which white insoluble flocks floated. This was similar to the result which I obtained in the case of Sarah Crabbe. Lead could readily be detected in the filtered fluid, and also in the solid contents. The mucous secretion was converted into a white homogeneous looking mass; in most cases the mucous coat was somewhat, but very slightly altered; a large number of small white points could be detected on its surface, produced by the chemical action of the acetate of lead upon the structure. The small intestines were healthy, without white points, containing tenacious mucus and very little fluid. The cœcum was filled with a pap-like brown mass, but was healthy. The rectum contained a small quantity of hard fæces, which yielded lead by analysis. The blood was considerably charged. The proportion of serum to the solid materials was much diminished, and the latter were strongly coagulated; the serum was thick. The lungs were mostly free from air and blood, and possessed only some dark points; but in some cases they were much darker than usual, from the black coagulated blood. The bronchial tubes were healthy. The kidneys were healthy; the bladder was generally filled with clear urine; all the other organs were healthy.

When the dose was increased, as when ten grammes (one hundred and fifty-four and a half grains) of acetate of lead were injected at once into the stomach, the effects produced were more rapid and more aggravated; the respiration and circulation became very soon increased; the dung was firm, but whiter than usual; the urine frequently contained white flocks, and sometimes bloody. After some hours the animal became much weaker and the respiration difficult; it lay much on its belly, and was affected by convulsions. The debility gradually increased to such an extent that the head could no longer be sustained but sank between the fore-legs; the pulse became imperceptible, and death took place with opisthotonos; the time which the dose required to produce the fatal effect varied from three to twelve hours. In addition to the appearances detailed as observable on dissection after death from small doses, the slimy-looking mass produced by the decomposition of the mucous secretion, was found to cover the mucous coat to the depth of one—two lines; the mucous coat had undergone very considerable alteration; it formed a gray, whitish, dry mass, which resembled very much in consistence coagulated albumen or curd. A similar appearance is produced by digesting mucous membrane in a strong solution of acetate of lead. The muscular coat was also affected, being in some places completely white. The whole of the mucous coat of the small intestines was acted on by the lead, being white, thickened, and dry. In numerous places red spots were observable which were ecchymosed points. The acetate of lead appeared to have penetrated through the corroded mucous coat which formed the folds of the intestine until it came in contact with the blood-vessels, which it also corroded; it then mixed with the blood, and deposited the dark coagula. The mucous coat of the blood-vessels was also in many cases acted on by the ead in addition to the coagulation of the blood. The urine was frequently milky and sometimes bloody; in the latter case the outer surface of the kidney was found to be darker than usual.

From these experiments it is evident that when acetate of lead is introduced into the alimentary canal it speedily combines with the fluid and solid substances with which it comes in contact, and that it never reaches the blood-vessels in the state of acetate of lead. In a therapeutical point of view, the question, therefore, for solution is, What is the action of the compounds of acetate of lead and animal matter upon the economy? Before we can prescribe with safety acetate of lead for hemorrhages from the lungs, it is obvious that this question must be solved. Mitscherlich accordingly extended his researches to this point.

4th. *Action of Acetate of Lead when combined with Albumen and Acetic Acid.*—Half a gramme (7.75 grains) of sugar of lead was dissolved in water, precipitated by an excess of albumen, and the compound dissolved in acetic acid. This dose was administered to rabbits every other day. Death occurred from the seventh to the sixteenth day. It required 3.5 grammes (54. grains) of acetate of lead to produce death, or half the quantity which was necessary of pure acetate of lead. The symptoms were similar to the cases detailed. After the fourth dose great weakness was exhibited. The sixth dose produced bloody urine. The seventh dose caused the animal to be very sick. On the sixteenth day violent spasms came on at intervals of four hours, and death took place with episthotonos. On dissection the mucous membrane of the intestinal canal was found to be uncorroded, of the natural colour in the stomach, but reddened in the small intestines; a number of brownish-black points were observable at the large curvature of the stomach. The lungs contained very little air. The kidneys exhibited in some parts of the cortical substance a blackish-brown appearance, similar to what is found when bloody urine has been discharged. The blood-vessels contained very little blood. The blood was strongly coagulated and dark. The serum possessed a cherry-red colour. From these experiments it is obvious that the compounds of albumen and acetate of lead, when dissolved in acetic acid, are twice as poisonous as when acetate of lead is used alone. In the latter case a small portion only of the compounds is dissolved by the free hydrochloric and lactic acid of the stomach, and it is only the soluble compounds which are poisonous.

5th. *Action of Acetate of Lead on Wounds.*—An incision half an inch in length was made near the spine of a rabbit, and the cellular substance detached by the handle of the scalpel so as to form a bag extending to the mesial line of the abdomen. Two grammes (30.86 grains) of acetate of lead were introduced in substance and the edges of the wound brought together. On the following day the same experiment was performed on the opposite side. After two days two grammes (altogether six grammes, or 92.6 grains) were introduced into a wound in the posterior extremities. The animal became lame in these limbs, as dissection showed, from the corrosion of the muscles by the lead. Respiration was affected by the size of the lesion in the pectoral and abdominal muscles, and the animal died on the evening of the following day without strong convulsions. On dissection the parts in the neighbourhood of the wounds were converted into a white, dry, easily divisible mass; the corrosion extended to one, two, and three lines in depth, and in one place to the peritoneum. The arteries and veins on the corroded surfaces were also white. The blood in the other vessels appeared unchanged.

In another experiment half a gramme combined with albumen, and introduced under the skin, produced death in twenty hours, with symptoms of opisthotonos; and in a third trial, one gramme (15.43 grains) of acetate of lead, dissolved in acetic acid, produced death in three hours. Hence it would appear that pure acetate of lead corrodes chemically, and can only produce symptoms of general poisoning when it comes in contact with surfaces discharging free acid which may dissolve the compounds. In the other cases the symptoms were similar to those induced by the introduction of the same substances into the stomach.

6th. *Examination of the Blood and Urine for Lead.*—Mitscherlich obtained a very minute quantity of a black precipitate by means of sulphuretted hydrogen, which he suspected to be sulphuret of lead, but the quantity was too minute to decide. No lead was found in the urine.

Conclusions.—From the experiments which have been detailed we learn,—

1st. That when acetate of lead is applied directly to the stomach, it acts upon the mucous secretion, and if the dose is sufficient, upon the mucous coat itself, corroding it, according to the usual term of expression, or, more correctly, forming a chemical combination with the matter of which it consists. According to the strength of the dose the mucous coat of the whole intestinal canal is more or less affected. Hence if we wish to administer acetate of lead to stop hemorrhage of the intestines, it should be given in solution in water.

2d. Acetate of lead only produces symptoms of general poisoning when the

compounds which it forms with organic matter are in solution in acids. Hence the method recommended by Dr. A. T. Thomson, of giving acetate of lead with vinegar, is the very method for increasing the poisonous effects of acetate of lead; the occurrence of carbonate or oxide of lead in the stomach in a free state is impossible after the administration of acetate of lead.

3d. These experiments elucidate the action of acetate of lead when employed to overcome inflammation of mucous membranes. It first decomposes the secretion, corrodes the membrane, penetrates to the blood-vessels, which it also corrodes, coagulates the blood; it, in fact, kills the part, which ultimately falls off either by detachment, or by being dissolved.

These experiments are of great value in a therapeutical point of view, because they afford a kind of type of the action of all metallic salts; the nature of their therapeutic power being strictly an object of chemical research. The presence of lead in the blood, and its state of combination in that fluid still remains to be determined.—Lancet.

DIVISION OF THE TENDO-ACHILLIS AND OTHER TENDONS.

ABSTRACT OF A CLINICAL LECTURE BY MR. LISTON.

(Delivered at the University College Hospital.)

Division of the Sterno-mastoid, for Torticollis; of the Tendo-Achillis for Club-foot; of Flexor Tendons for Contracted Knee-joint; of the Tendons of the Toes, for inflamed Corns, &c.

In the commencement of his lecture Mr. Liston said the division of tendons for the cure of deformity, was by no means a new proceeding; it was frequently resorted to by many of the older surgeons, among whom were John Mekran, and Mr. Sharpe, a surgeon of Guy's Hospital, nearly a century since, which latter was in the habit of dividing the origin or attachments of the sterno-mastoid muscle, for the cure of torticollis. This operation had been repeated of late years by Sir B. Brodie, by the late Baron Dupuytren, and he, Mr. Liston, had seen cases in which its performance was attended by good results. It was a proceeding, however, which was not frequently called for, inasmuch as the twisted state of the neck was generally produced by disease of the vertebræ, or from a painful swelling or ulcer on the side of the neck, producing such an alteration in the structure of the part, as to render operative proceedings useless. Delpech might justly be considered as the founder of the operation of dividing the tendo-Achillis for the cure of club-foot. He had related in his "Chirurgic Clinique" several cases of varus, as they were called, and described the plans of his apparatus for carrying out his mode of curing them. One or more cases were related in which the tendon was divided. His plan was to make a longitudinal incision on each side of the tendon, through which he slipped his knife, and divided the tendon from before backwards. Within the last year or two a great number of cases in which the tendo-Achillis had been divided, had occurred, and were related by the operators, Stromeyer, Dieffenbach, Guerin, and Dr. Little, who himself was the subject of varus, and had published a thesis on the deformity. This gentleman had also latterly published a number of cases in which the tendo-Achillis was divided for the cure of deformity, to which he had given odd and long-sounding names, such as talipes equinus verus, &c. &c. The deformity of the foot presented itself in a variety of forms. When the under part of the foot was turned inwards, the deformity was termed varus. In other cases the foot was turned outwards. The first, however, was the most common deformity, and in this case the toes were turned inwards, the patient rested on the cuboid bone, and the root of the metatarsal bone of the little toe. The bones of the foot in this kind of deformity were little altered in form or appearance. They had attained their ordinary size, and were little distorted regarding their position one with another. After a time, however, if the deformity was not remedied, the bones on the inner side of the foot diminished in

size by interstitial absorption; the internal cuneiform, the os calcis, and the soft parts covering them became altered. The patient rested on this part, the integuments of which became thickened, and a bursa formed in this situation. The limb on the affected side, to the knee-joint at least, lost its size and strength, the muscles becoming soft and flabby, and losing their red appearance. In many cases which were met with the heel was much elevated, owing to the natural shortness of the gastrocnemius and soleus, and their combined tendon; other tendons were also necessarily shortened, while, on the other hand, some tendons, as those of the peronei, were of course elongated. Sometimes, in the deformity called "horse-foot," the patient rested on the distal extremities of the metatarsal bones; this deformity was congenital, sometimes affecting both, sometimes one of the feet. A variety of apparatus had been invented for the purpose of curing these deformities, almost every instrument-maker having a plan of his own. The celebrated Scarpa had recommended one kind of instrument, Delpech another, and Mr. Colles, of Dublin, another. Sometimes the use of an iron, which passed up on each side of the leg, if continued for years, might affect a cure, but there was always much opposition from the contracted state of the tendons, particularly of the tendo-Achillis, the division of which much accelerated the cure, leaving the instrument-maker much less to do, or at all events diminishing his difficulties. When the tendo-Achillis was divided by accident, it united after a time in a favourable manner, a substance being deposited between the ends of the divided tendon; this substance became dense and fibrous, and could not be distinguished from the tendon itself. Horses were subject to an acquired deformity, in which they walked on the point of the hoof of one of their feet. Most of the pupils had seen horses going about with this deformity. Veterinarians had long been in the habit of cutting across the flexor tendons for the relief of this state; they were not at all particular as to the mode in which they performed the operation; they just drew the knife across the leg, and brought the foot into its proper position; the tendons soon united, even though, in some cases, there was a space of three or four inches between the ends of the divided portions, new matter, resembling the original tissue, soon filled up this space, and the cure was completed. It was from reasoning on these facts that Delpech was induced, in 1816, to resort to the proceeding of dividing the tendo-Achillis, but he cut through the integuments awkwardly. (Mr. Liston here exhibited several casts, also specimens of the deformity, at various ages, dissected, and a horse's tendon, which had been cut and united.) There, said he, was a specimen of varus; and there two cases in which the foot was permanently extended, the patient, in one case, having walked on his toes with one foot; in the other, both feet were affected from birth. In all these cases the foot was brought into the natural position by division of the tendo-Achillis, which proceeding materially assisted the apparatus maker. He alluded shortly to a case of acquired extension of both feet which had occurred some years ago during a severe attack of rheumatic gout, or rather of gonorrhœal rheumatism. The heels could not be brought within several inches of the ground; the patient had been to watering places, and had been most judiciously and anxiously treated, but without relief. The tendons, in a most rigid state, were divided with great benefit. The operation was easily performed; there was no necessity of dividing the integuments; a small punctured wound with a very narrow bistoury, or what was better, with a needle somewhat resembling a cataract needle, being sufficient. He had divided many with that needle (showing it) with scarcely a perceptible external wound; the tendon was first to be felt for, and being found, the instrument was to be passed close to it, between it and the bone; there were no blood-vessels or nerves likely to be wounded; the point of the instrument was then to be turned towards the tendon, which was to be tickled through and divided gradually; the division was indicated by an audible snap. There was a slight effusion of blood internally about the ends of the divided tendon, but there was no mark or external injury, no swelling, inflammation, or its consequences. The extremities of the tendon soon poured out plastic matter, and this uniting medium, at the expiration of about ten days, might be extended by

means of the apparatus employed for this purpose, and in six or eight weeks the foot would be brought into its natural position. In this case (showing a cast) the patient's foot was not only extended but turned inwards. A cure was effected by a rod which passed up the inner side of the foot. In this case (showing another cast) the patient had distortion of the spine accompanying the deformity of the foot. In two months after the division of the tendon he was able to walk about, the foot being of the natural shape, and altogether of a better form; there was only a little bulging to be perceived in the situation of the divided tendon. There (showing the bones of a foot) was a case in which all the bones were altered in form; the os calcis was smaller than usual. This patient walked all his life on the outside of the foot; a large bursa had formed underneath the thickened cuticle.

The division of tendons answered the purpose of curing deformities in other situations. A case had been in the hospital in which the knee-joint was contracted. The tendons of the semi-membranosus and semi-tendinosus were divided. The contraction, in this case resulted from an attack of rheumatism some time since. After the tendons were divided, a screw-joint apparatus was applied similar to that used in fractures of the bones of the leg, by which means the leg could be gradually extended from day to day, by turning the screw. The knee-joint of this patient originally formed a right angle, but she was now enabled to put her toes to the ground, though she was still obliged to use crutches. He, Mr. Liston, would get the knee extended an inch or two more, if possible, not quite straight, however, as the patient would not walk so well as though it were slightly bent. He hoped, by dividing the tendon of the biceps to produce this extension.

He, Mr. Liston, had also latterly divided the tendons of the toes,—an operation, he believed, entirely new,—for a common deformity. We often find the toes bent permanently; the middle toe, generally, sometimes the little toe, which stood up above the others. This deformity was either congenital, or arose from the use of tight shoes. The integument on the convexity of the joint became thickened, and a corn formed. The pain in these cases was sometimes so severe that the patient begged that amputation might be performed. A corn, as the students were aware, not only consisted in a thickened state of cuticle, but there was often a small adventitious bursa underneath it; this bursa sometimes inflames and suppurates; here was a specimen in which this was seen (showing a preparation), and in this case the toe was amputated. In this specimen the papillæ of the cutis were also much enlarged; this occurred from the greater demand for the secretion of cuticle, as was also observed in the paw of the dog. Some chiropodists, as his friend, Mr. Durlacher, were very dexterous in cutting out a corn, and with scarcely any pain, by which means a cure was affected; but in cases in which the toe was, from its awkward position, constantly subjected to pressure, the suffering was much increased, and interference with the corn was of little use. It was in such cases that patients applied for the performance of amputation. He, Mr. Liston, had some time ago, been requested by a gentleman to amputate both his little toes, which had become affected in the way described. In this case he did not wish to remove the toes, but the suffering was so great that the patient insisted on its being carried into effect. At length it was agreed that one toe should be removed, on condition that the other toe should be treated as he, Mr. Liston, wished, by the division of the extensor tendon. This proceeding was accordingly adopted. The toe, the tendon of which was divided, was brought into its proper position, and the foot soon became healthy and well. The patient was laid up with the foot from which the toe had been removed, for five or six weeks, an abscess having formed on the dorsum; and he did not go sound for a long after with this foot, while with the other he need not have been confined a single day. He (Mr. L.) had operated on cases of a similar nature successfully, and had others under his care, in which he meant to pursue the practice. It did not deserve the name of an operation, being unattended with pain, or the loss of more than one drop of blood.

Ibid.

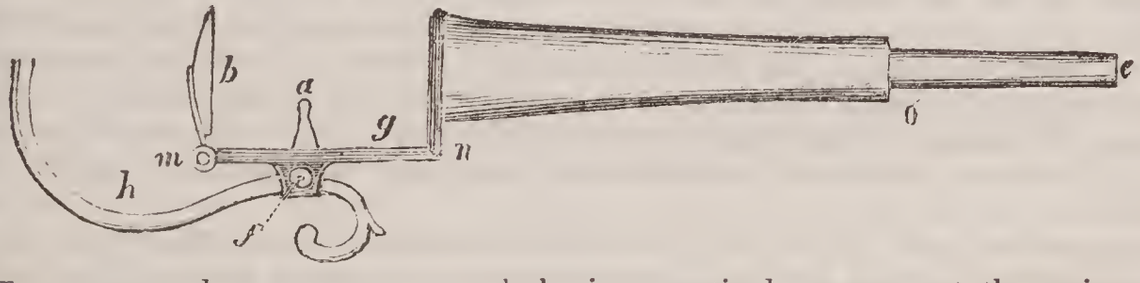
AN ACCOUNT OF A GAS-SPECULUM, AND OF AN OBSTINATE DISEASE OF THE EAR SUCCESSFULLY TREATED.

BY J. TOGNO, M.D.

In my last letter, Dr. Togno writes, I troubled you with a detailed account of a *solar-speculum*.—Allow me in the present one, to convey to your numerous readers, a delineation of a *gas-speculum*, to be used instead of the former, whenever the sun is not visible.

I should have given a description of these instruments long before now; but fearing to publish anything that might be considered premature, I postponed this publication until the present occasion. Being now firmly convinced that they may become of great utility to mankind, as much so, in their way, as the stethoscope, I make them public, in the hope that the faculty at large may experiment on their positive usefulness in the examination of the uterus, the vagina, the anus, the ear, the nasal passages, and especially when ever any operation is to be performed on these parts. I shall be equally thankful to the candid experimenter, either for the confirmation of my views, or for his enlightened and impartial criticism. Science should know no favouritism: truth and utility are its sole object.

I have introduced into my house the gas manufactured by the Philadelphia Gas Company, which is uncommonly pure, without the least particle of smoke. It gives out a very clear and pure light, that does not fatigue the eye in the least. The branch on which the gas burner is fixed, is so made as to enable me to place the whole gas-speculum on it, and to fasten it to this branch by a hand-screw, *f*. This apparatus is composed of a concave metallic mirror, *b*, of the diameter of the expansion of the flame of the burner, which spreads out into the shape of a bat's wings. The mirror is perpendicular to the axis of the truncated cone or tube, *n*, *o*, into which the light reflected by the mirror is concentrated. The sides of this tube are parallel from *o*, *to*, *e*, and a portion of this tube slides over the other with a cloth slider, in order to lengthen it, so as to enable the operator to adjust the focus of the lens placed at *e*. Both the mirror and tube are fastened to the same cradle, *m*, *n*; and the plane of these two parts of the apparatus preserve always the same relative position and inclination. The inside of the tube is blackened to prevent any reflected light from the sides confusing the pure direct light from the burner, and that reflected by the mirror.



The gas-speculum moves as a whole, in a vertical manner, at the point *f*, by unscrewing slightly the hand-screw, that fastens the whole cradle; and this movement is in a plane, through the median line of the mirror and flame, and thus the focus of the lens can be directed upward and downward, and projected on the object to be examined. This apparatus affords a pure light, as clear as the sun itself, when twice reflected; and enabling the surgeon to operate at all times, with perfect privacy, by rendering the objects perfectly visible without fatiguing the eye in the least: an advantage that is not possessed by any other kind of artificial light that I ever used, especially when powerful. The flame of the burner, besides, may be diminished at pleasure.

Without entering into a very minute history of the various contrivances which have preceded mine, and which have been resorted to by aurists, in order to illuminate the internal parts of the ear, I shall simply mention the apparatus of Buchanan. That of Kramer, which is essentially the same as that of Buchanan, is the least objectionable. So far back as 1829, I used a similar apparatus; but I soon found it a very imperfect instrument: because the red light of such a lamp imparts to the tissues examined, one uniform lurid red colour, and thus gives a very false and incorrect appearance to the parts calculated constantly to mislead the observer. I therefore, long ago, discarded its use altogether. The same objection may be made to every apparatus in which the combustible substance that illuminates the parts is a vegetable or an animal oil.

Itard and Deleau have, to my knowledge, no other means of examining the *meatus externus* but the common speculum, which is, properly speaking, but a simple apparatus, to dilate with its valves the orifice of the meatus, and by allowing the light of the sun to penetrate internally, renders its various parts imperfectly visible, the direct rays of the sun being never so good to examine an object, because they dazzle and fatigue the eye. No such objection can be made against my instruments.

In the article *Speculum* of the *Dict. de Med. et de Chir. Pratiques*, I find the following sarcastic paragraph on the frivolous pretensions of those who have, from time to time, made ridiculous alterations, which by the aurist has been exalted into a discovery.—"All the external orifices have exercised the inventive genius of certain surgeons who have modestly thought to assist the progress of science by adding to its already too large instrumental arsenal; some of them, by adding a simple piece of steel, curved in one way rather than another, or a handle, or a particular articulation; while others, by using a plate of four inches, instead of one of three and a-half, believing this an improvement; and by others, more bold and less hesitating, consider these alterations *inventions!*" I feel the truth of this paragraph; and I quote it because it conveys a salutary lesson to the pretensions of inventors. I humbly believe that these instruments are not of the category of those alluded to in the above quotation; and that they are entirely different from anything that has ever been used for this object.

France, it is true, has had her Saissys, her Itards, her Deleaus, &c., justly celebrated in diseases of the ear, by improving the diagnosis, and by the fertility of invention of all kinds of instruments; but still they have never constructed an apparatus for the perfect illumination of the internal ear, to facilitate its inspection while in a morbid condition, and for the purpose of enabling the surgeon to operate knowingly in this organ. I, however, pay them, in this place, a tribute of respect for their superior talent, from a sense of gratitude for the instructive lessons I derived from their valuable labours.

In confirmation of the utility of the *solar speculum*, and of its advantages as proved to me by the experience of several years' daily use, especially in cases involving the auditive organ and its concealed parts, I shall introduce, in this place, a recent case, witnessed by *two medical gentlemen*, illustrating my views of its great advantage, and clearly showing, by *facts*, that without some such contrivance, it would not have been possible to treat it successfully. Other cases, illustrative of my opinion, and corroborative of this case, could be here related, were it not that I should then go beyond the reasonable limits of a letter.

September 10th, 1838, Mr. James Heilbron, from Charleston, South Carolina, called to consult me about his right ear, in company with my friend, Dr. Duncan, of this place. I learned from the patient that he had consulted on his case from twenty to thirty medical men of eminence, the substance of whose advice was, a recommendation to do nothing for it;—to bear his distressing infirmity with patience; adding that none had any appropriate instrument to examine the auditive organ, in order to ascertain its actual condition. In the course of conversation, I found that the patient was full of alarms—easily excited, but at the same time complaining of no pain in the ear, but merely of a fulness and numbness in the head, a confusion of ideas, a treacherous memory, as well as a want of sensation in the *meatus externus*, and even of the face on the right

side. He had a full and sluggish pulse, eyes injected, and laboured under a continual dyspepsia. He was unable to lie down on the left side, because of an arterial beating that would immediately follow in the auditive organ, and a fullness of the head on that side. The patient was obliged to sleep upon his back, propped up by several pillows, for, whenever he reclined on the right side, he was subject to hemorrhage from the right ear. Thus his life was embittered, and his malady the continual cause of complaints. There issued from his right ear a continual discharge of bloody, purulent, fœtid matter, which he was obliged to cleanse away constantly; and notwithstanding all his habits of cleanliness and care, the fœtid effluvia of the diseased organ was made evident as soon as he entered my office. On an examination of the ear, with the assistance of my *solar speculum*, I found that the *meatus externus* was full of fœtid matter, which was immediately syringed out with a mucilaginous liquid, and then a large fungous excrescence that plugged the whole passage, and from which the purulent matter oozed out, as well as a caries of the bony part of the *meatus externus*, was made evident. The patient had supposed, and firmly believed that he could hear with this ear; but after this examination, I informed him that he was mistaken with respect to this belief. He still insisted that he did hear. In order to convince him, I then placed my watch at four inches from his right auricle, and asking him at the same time whether he heard it, he answered me in the affirmative. I insisted that he did not hear it, because I knew by the state of the ear, and by the vague expression of the right eye, when the watch was at four inches, the real state of audition of the right organ. The patient was made quite angry by this contradiction, but was soon appeased by my placing the watch on his right auricle, and pressing it against it. He then really heard it; and was only made aware at that moment of the extent of the deafness of that ear, and candidly confessed his error, but not without expressing great surprise and fear at his condition.

The polypus or fungous excrescence was now repeatedly touched with a weak solution of nitrate of silver, by means of a very fine camel's hair brush, and the ear was filled soon after with mucilage of slippery elm bark. The bowels were freely opened several times, and a generous diet advised: but wine and spirituous liquors were forbidden. The nitrate of silver solution was used in the same manner for several successive days, after the ear had been thoroughly syringed. Every time that the ear was thus syringed, large lumps of matter, of a cheesy consistency, and fragments of thickened and degenerated membranes, as well as portions of the polypus, were forced out. This treatment being continued for a few days, morning and evening, the polypus gradually disappeared, except its pedicle that was located on the anterior part of the *membrana tympani*, which gave it origin. Now that the fleshy mass, which obstructed the meatus and prevented my clearly seeing all its parts, was removed, I was able to make a more minute examination. I perceived again, but more distinctly than formerly, that there was a cavity on the upper part of the bony portion of the *meatus externus;* and that there was a caries not only of this part, but also of the petrous portion of the temporal bone into which the silver probe could be introduced in an inward and backward direction; and evidently this caries led towards the base of the brain. I immediately directed the end of a syringe into the fistulous orifice, and then repeated injections of mucilage were forced into the carious cavity; a quantity of blackish matter, of a cheesy consistence, came out from this cavity. When thus well cleansed, I injected into it a weak solution of hydriodate of potass. After employing these injections for several days, I introduced into the same fistulous orifice an ammoniacal solution of nitrate of silver, by means of the camel's hair brush. This was also continued for several days, with a recommendation at the same time, during the whole treatment, that the ear should be always kept filled up with mucilage, and then plugged with cotton, to protect the sound parts from the corrosive and irritating effects of the morbid secretions. Before two weeks had elapsed, the secretion of the fœtid matter was completely stopped, and the caries of the bone was evidently filling, to judge by its present secretions, with healthy granulations, which soon made their appearance at the fistulous orifice. The ear was still

daily syringed with a mucilaginous liquid, but always warm: for the presence of a cold liquid, or cold air, was intolerable, and produced giddiness, and indescribably unpleasant sensations,—so much so, that the patient dreaded even the removal of the cotton plug, in order to operate on the ear. Finding that the healthy sensibility of the parts was returning, in proportion to the disappearance of the morbid sensibility just mentioned, that the whole organ assumed its normal appearance, and still the hearing was only slightly improved, I resolved to probe the Eustachian tube, and to ascertain its condition, by means of air douches. But to my great gratification I found it free, unobstructed, and very sensitive—but morbidly so. I directed through the nasal passages, and also into the Eustachian tube, mucilaginous injections, to allay the irritation of the parts. A few days being elapsed, the whole organ resumed its natural appearance, and audition also was fast returning in the same proportion.

October 15th, Dr. Heilbron is entirely well, and in good spirits, owing to his quick recovery; he remarked to me that had the vexatious events caused by the present yellow-fever that rages in Charleston, occurred previous to my treatment and his recovery, they would have made him so intolerably irritable; that his head and ear would have been affected as formerly, and frequent hemorrhage and discharges of matter from it would have been the consequence. But that notwithstanding all these predisposing causes he feels perfectly calm, and bears these vexations cheerfully; and none of the former bad symptoms have in any manner made their appearance. In compliance with Mr. H.'s request I introduce with pleasure in this place his letter, because the very satisfaction mentioned in it is a sure evidence of his entire recovery. I also embrace the present opportunity of warmly thanking professor Holbrook of South Carolina, and Dr. Duncan of Philadelphia, for their kind assistance in encouraging the patient to persevere in the treatment that was to produce this happy result.

Philadelphia, October 9th, 1838.

Dear Sir,—Being satisfied that you have performed a perfect cure in my case, I deem it useful for the benefit of others labouring under the same complaint, to give you a history of mine from its commencement.

About 3 or 4 years ago after an attack of dyspepsia, in which I could not for some time retain any nourishment that I took, either liquids or solids, I found one morning that my right ear was bleeding profusely. I made use of the various applications generally resorted to in such a case; the bleeding stopped, and a discharge of matter of an offensive nature soon followed. This continued for some time, and a free discharge of blood soon followed it. When it stopped, matter again appeared, and so on in regular succession. I applied to my physician, and also to many others; they all agreed that it was an effort of nature not to be interfered with. I travelled several summers to the Virginia Springs without receiving any benefit; and this year my visit to the Springs only benefitted my general health, but had no beneficicial effect on my ear; indeed the bleeding had rather increased, and my hearing in the right ear was almost lost. I had to resort hourly to cleansing the ear, and filling it up with cotton, as it could not be left for an instant without being shielded by cotton from the air. I could not rest on either side, and my pillow was covered nightly with blood and matter. It became very offensive; my mind was distracted, and I was made irritable. In this situation I met here Dr. Holbrook, Professor of Anatomy in the University of South Carolina, a gentleman in whom I have the greatest confidence: he recommended to me at once to apply to you, and promised that he would accompany me, stating that you were the best aurist in Philadelphia. Dr. Holbrook was detained and prevented being present at our first appointment, although he subsequently was present, and you both examined my ear, upon which you operated. I was on our first interview, kindly introduced to you by Dr. Duncan of Philadelphia. My fears were realised; for upon examination you found that I had fungous excrescence in the ear, and that its bony part was carious. Dr. Duncan, then examining it, coincided with you. In placing myself under your care, I was afraid that the operation of extracting the fungous part would be attended with great pain, and that more time would be required than I could possibly spare, but I was agreeably dis-

appointed. I had no pain, I lived as usual, and could attend to my business; even the caustic you applied, which alarmed me so much, did not affect me in the least painfully. Lastly, the probe you applied through the nostrils to the ear, was applied with such dexterity and lightness of hand (for the purpose of ascertaining its condition), that I wish it had been done in the presence of all the faculty. Professor Holbrook, who subsequently examined the ear, is satisfied that I am perfectly restored, as well as Dr. Duncan. My hearing is entirely re-established. I can now hear my watch at one yard's distance, which before I could only hear when pressed upon the ear. I wish that you would publish this case, with a detailed account as you have observed it, since I cannot give a scientific statement of it, and also an account of it in plain language for other individuals.

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* * * * * * * * * * You may rely on it, my dear sir, if I hear of any case of deafness I shall (if I am obliged to walk miles) go to tell the sufferer of the success you have had with me, and recommend him to you. I shall see you again before I leave this place, and thank you personally for the kindness and good feeling shown to me whilst I was under your care.

May God prosper you, and send you as many patients as you deserve for your constant patience and industry.

Washington House, October 9th. JAMES HEILBRON.

Having a personal knowledge of Mr. Heilbron, and the circumstances connected with his case, I feel proud to add my testimony; and allow me my dear sir, to congratulate you on your complete success in restoring Mr. H. to his hearing.

Yours, with respect,

To Dr. Togno. A. J. H. DUNCAN.

Observations on this case.—The disease was perfectly cured, without producing any bad consequences, by gradually arresting the discharge, and by curing the caries of the bones; and this contrary to the erroneous opinions given by many physicians, who had been consulted in the case, because they had no appropriate apparatus to examine the ear, and to ascertain its real condition.—They were misled by a general notion of the positive danger that exists, in some cases, of stopping a discharge of purulent matter when coming from the ear, and feared to arrest a symptomatic discharge of puriform matter, when from the carious state of the petrous portion of the temporal bone, by which often the death of the patient may be caused, if it be too quickly or imprudently or injudiciously done, as in many cases related in Dr. Itard's work. We are fully aware of this rash consequence, when the symptoms indicate that the caries has already reached the cavity of the cranium, and of the deadly consequences of an improper treatment by astringents in such a case, as it is but too often practiced.

In this case, on the contrary, the silver *probe* and the *eye* told us the real state of the carious bone, and the total absence of lancinating pains told us the rest. Hence our treatment with nitrate of silver and mucilaginous injections to encourage the discharge, protect the parts from the acrimony of the secreted matter, and restore the tissues to their healthy condition. The result proved that our views were correct. We particularly instance this case, because it emphatically showed how easily the observer may be laid into an erroneous diagnosis, simply from the want of an appropriate instrument to ascertain the real condition of the parts affected. For further information on this interesting subject, we refer the reader to Dr. Itard's learned work on the ear

SURGERY.

We have been favoured with a sheet of the December Number of the *Southern Medical and Surgical Journal*, in advance of course of its date of regular publication. We find the particulars recorded of a "*Successful Division of the Adductor Longus Femoris Muscle, for Deformity and consequent Loss of Motion in the Inferior Extremity*," by Doctor Paul F. Eve, Professor of Surgery in the Medical College of Georgia. We shall insert the article entire in our next number; but for the present must content ourselves with announcing a fact so creditable to the able surgeon who operated agreeably to his own original suggestions. Hitherto, the removal of deformity of the lower limbs by the use of the knife, has consisted in a section of one or more of the tendons. In this case the muscle was cut. The limb which had been before one inch shorter than the other, and was turned inward, was restored to its proper length, and could be turned (foot, leg, and thigh) outward, to nearly the same extent, and with almost as much freedom as that of the sound side. This case will make an interesting addition to the lecture by Mr. Liston in another part of our present number.

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In the *Southern Medical and Surgical* for November, there is an account by Dr. Arnold of an extraordinary case of *Rupture of the Rectum and Protrusion of the Intestines through it, and their Expulison externally per anum.* The portion of bowel protruded, as it was shown in dissection after death, included all the small intestines, beginning from the upper third of the jejunum and the whole of the cœcum, which had been torn away from its attachments in the right iliac fossa. It found its way externally, by passing from the cavity of the abdomen through a rupture of the rectum, on its anterior part, five inches above the anus.

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The treatment of fractures by the Immovable dressings (*Appareil Immobile*) seems to gain renewed favour in the eyes of surgeons on both sides of the Channel. Mr. King, of London, has lately given a lecture on the subject at the Blenheim Street Dispensary, which will merit insertion in an early number of the Eclectic.

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Operation of the Stone.—In the *Medical Gazette* for August, Surgeon Hugh Fraser, of the King's Royal Rifle Corps, at Corfu, gives the details of the *Successful Extraction of an Immense Calculus, by the* Bilateral Operation. The bladder was exposed by a transverse semicircular incision, at the distance of eight or nine lines in front of the anus, and of a sweep of about eleven or twelve on each side of the raphé towards the tuberosities of the ischium. The membranous portion of the urethra being reached was slit open, and the beak of the Lithotome (set at nineteen lines and a fraction) planted in the groove of the staff, which had been held by an assistant. The operator taking hold of the staff, and depressing it, the lithotome was steadily insinuated through the prostate, which made a little resistance; its entrance into the bladder was marked by a stream of urine.

"The lithotome was then deliberately turned from having its convexity looking sacral to the pudic aspect, and withdrawn, having the beak directed to a point an inch below the umbilicus, the handle much depressed upon the rectum and anus. By this mode the prostate gland is cut into about two equal portions, the one pudic, the other sacral; so that the floor of the incision is the rectum,

the *traject* from the prostate to the external wound almost perpendicular—an incision obviously much guarding against cellular infiltration."

After no little trouble by efforts to extract the stone with the forceps, and an abortive attempt by an assistant to break it down with a powerful lithotripotor, it was most luckily caught very firmly in the only diameter that it could possibly have been drawn through the perineum, and brought away, without the farther assistance of the knife.

The calculus in shape and size greatly resembles the egg of a turkey; and it is somewhat flattened.

"It has a bloody, rough growing coat, and would probably, in no long while, have become adherent to the bladder. Its weight is five and a quarter ounces—add a quarter splintered off its small end in the attempts at extraction, and you have a stone weighing five and a half ounces, apothecaries' weight. Measuring the long circumference, it is exactly seven inches, and the circular or short diameter, is six inches and three-tenths."

By a rapid transition from the island of Corfu, in the Mediterranean Sea, to the town of Maysville, on the Ohio, we next notice the operation of lithotomy successfully performed on three subjects during the last summer, by Doctor John Shackleford, of the last named place. The patients were all youths.

BIBLIOGRAPHY.

The Works of John Hunter. F.R.S., with notes. Edited by James F. Palmer, Senior Surgeon to the St. George's and St. James' Dispensary; Fellow of the Royal Medical and Chirurgical Society, &c. In Four volumes. Illustrated by a Volume of Plates in Quarto. London, 1835–7.

The mere announcement that a complete and corrected edition of the works of John Hunter has been published must be peculiarly gratifying to all the members of our profession, of which this distinguished man was so great an ornament, and for the establishment of the principles of which on a true basis he did so much. There seems to have been but one kind of feeling expressed by all the British Journals on the subject; that of pleasure at the undertaking, and approbation at the manner in which it has been executed. Our own satisfaction is not a little increased at our being instrumental in extending to American medical readers, the advantages presented to the English by the editorial labours of Mr. Palmer. Little, indeed, was it thought, a short time ago, by the student on either side of the Atlantic, that he would ever enjoy the opportunity of perusing Lectures on Surgery by John Hunter. Tradition, occasional allusions in other writers, and the views and illustrations in his work on the Blood and Inflammation, were thought to be the only sources of supply of our knowledge of this great man's surgical lessons. When, therefore, the publication of Lectures on the Principles of Surgery by John Hunter was announced, the intelligence must have created the same surprise, and may we not add transport of pleasure, to the medical profession, which would be felt by the historian on his hearing of the recovery of a lost decade of Livy, or by the naturalist when he should be told that a large part of the Natural History of Aristotle had been found.

But we somewhat anticipate. Let us first give Mr. Palmer the benefit of

his claim for the superiority of the present edition above all preceding ones; as will appear from the following particulars:

1. It embraces the *whole* of Mr. Hunter's published works.
2. It contains a full and collated copy of his Surgical and Croonian Lectures.
3. It is preceded by a new life of the author, containing original anecdotes, a critical disquisition concerning the character and writings of the author, and a summary exposition of his Museum; to which has also been added Mr. Hunter's correspondencé with Dr. Jenner and Sir Joseph Banks.
4. It is illustrated by the whole of the original engravings, to which several others have been added.
5. The whole work is accompanied by illustrative notes, with the purpose of supplying such deficiencies as the progress of science has rendered necessary.
6. The text has been corrected, the punctuation rectified, and the modern synonyms introduced. Obscurities (so far as they have appeared to depend on impropriieties of expression) have been obviated, and a copious index has been added to the whole.
7. The work has been printed in a clear and legible type, at the same time that the size and price of the Edition, and the manner of its publication, have been accommodated to the convenience of purchasers."

The last recommendation is, we dare say, acknowledged valid by the English purchaser. We intend that it shall apply, in respect to price, more emphatically to our *Library* edition. This will be made manifest when, we tell our readers that the cost of the copy now before us is *twenty-four dollars*

The plan which we have proposed ourselves to follow is this: We begin with the republication of the *Principles of Surgery*, as it is a work entirely new to the American reader. We shall next introduce the Life of Mr. Hunter written by Mr. Drewry Ottley. After this we shall continue the republication of the other works of the celebrated physiologist and surgeon, at such intervals as may be found compatible with the introduction of works of the day, and the preservation of the requisite variety in the composition and complexion of the Library. By this means we give an opportunity to the medical profession in the United States, the only one from present appearances which they may have for a long time, of placing on their shelves the works of Hunter, and thus of supplying a sensible and much regretted blank in the libraries of the younger class of practitioners of the present day. We advert now more particularly to the Treatises on the Blood and on the Venereal Disease. His Lectures on the Principles of Surgery will be new to all; whilst his Treatise on the Teeth and his various papers, which of themselves make a volume, on the Animal Economy, are hardly to be found in any private library in the country. They have never, we believe, been republished in America.

One distinctive feature of the present edition of Hunter's works has been already mentioned, viz., in the addition of illustrative notes, which are not thrown in at hazard, but are written by men who are already eminent for their skill and attainments on the particular subjects which they have thus illustrated. By this means, whilst we have the views entire of John Hunter in the text, we are enabled, by reference to the accompanying notes, to see wherein the author is borne out by the positive knowledge of the present day, or to what extent his views require modification and correction. The names of the gentlemen who have in this manner assisted Mr. Palmer, are guaranties of the successful performance of their task. *The Treatise on the Natural History and Diseases of the Teeth* is edited by Thomas Bell, F. R. S., F. L. S., F. G. S., Lecturer on the Teeth and on Comparative Anatomy at Guy's Hospital, who is also the author

of a highly valued work on the Teeth. *The Treatise on the Venereal Disease* is enriched with notes by G. G. Babington, Surgeon to St. George's Hospital, and formerly Surgeon to the Lock (venereal) Hospital. The *Treatise on the Blood, Inflammation, and Gun Shot Wounds* has been under the charge of Mr. Palmer himself, who has added miscellaneous practical papers collected from different transactions and notes. *Observations on Certain Parts of the Animal Œconomy — Croonian Lectures on Muscular Motion*, delivered before the Royal Society, in the years 1776–82; with miscellaneous papers on Physiology, Zoology, and Comparative Anatomy, extracted from the Philosophical Transactions and other works, make another volume, which has been thus arranged, and to which notes have been added by Richard Owen, F. R. S., F. L. S., and Hunterian Professor to the Royal College of Surgeons in London.

Of the Lectures on the Principles of Surgery, the publication of which is begun in the present number of the Library it has been well remarked by a transatlantic contemporary* that the subject "naturally suggests a division of their contents into three portions,—physiological, pathological, and practical. The lectures purely physiological are comprised in eight chapters; and when it is remembered that John Hunter was the first who systematically applied the principles of physiology to the elucidation of surgical diseases, his views in his department must possess much interest." As conveying our own impressions, we shall borrow the language of the same writer on the general merit of these Lectures:—

"They embody an immense amount of important facts, directed with no common skill to the illustration and improvement of medical science generally, and of the surgical department in particular. Indeed we have no hesitation in saying, that whatever be the position of the reader in the profession, he will not relinquish the perusal of these Lectures, without the consciousness of having usefully employed the time which he may have bestowed upon them. For they constitute in the fullest sense of the term, a philosophical disquisition on the science of Surgery; and hence, embracing the great principles on which the whole art of healing rests, their interest will be felt by all who regard Medicine as a true branch of science, and who delight to witness the gradual development of principles in the right interpretation of the phenomena of nature."

Of the manner in which the editor of the Lectures, Mr. Palmer, has fulfilled his part, there is, we believe, but one opinion among the British Journalists.

"The advancement and improvements that have been effected, up to our own day, not only in practical surgery, but in all the collateral departments, are constantly brought before the reader's attention in clear and concise terms. The errors of expression, also, into which Hunter was apt to fall, are judiciously pointed out, and rectified where, from want of precision, the student might be led into error. Indeed, taking these lectures in conjunction with the notes, we hardly know any work that will be read with greater advantage. The student may obtain from it an excellent initiation in the principles of his future profession; the surgeon will receive many excellent hints, which he may readily discover opportunities of applying in practice; and the physician may gather from its contents just and philosophical notions of the true theory of the whole art of healing, which cannot fail to heighten his devotion to its pursuits. We think, moreover, that no one will finish the perusal of this publication, without some feeling of honorable anxiety to imitate the virtues and labours of John Hunter, who not only now, but probably in all future time, may be regarded as the pride and boast of British Surgery."†

* British and Foreign Medical Review. Vol. V. p. 47. † *Ibid.*

HYDROPHOBIA.

There has been lately published, in the New York Star, a wonderful account of a case of an alleged cure of violent hydrophobia by the outward application of what is called the *East India Medicine* or *Spiritus Vitæ.* The subject of the attack was a young female of the Society of Friends, named Ann Dickers, residing in the middle road, in the neighbourhood of the Deaf and Dumb Asylum, New York. This person, twenty years of age, was, it is said, bitten, in the month of April last, "by a dog which had been given to the family by a neighbour, named Chruse but which circumstance she did not at the time make known to any one, in consequence of her father having frequently warned her against playing with dogs—she being fond of sporting with and teasing them. Soon after receiving this bite the dog which had previously exhibited symptoms of being rabid disappeared, and nothing more has since been heard of it." So far the preliminary history—which, it must be admitted, is not very clear.

On a Sunday evening, in the latter part of October, or beginning of November, up to which time Miss Ann had enjoyed full health, she first began to manifest strange feelings, among which was distress at the sight of a pail of water, which her sisters had taken up to their room; afterwards, though she poured out tea, but did not drink any, "she appeared to look wild, and started off on seeing the gravy with some meat which her sister took from the stove. Going to bed, she felt a paroxysm coming on, and told her sisters to fly, intimating she was mad; they got out of her way, fearing that she would injure them. "We all," says one of her sisters, "ran up in a fright, seeing she was in dreadful spasms, the foam coming in thick masses from her mouth, her eyes glaring, and her whole appearance being altered." After this (her father had arrived in the room), Ann voluntarily held her arms back to be tied, and one of the men who were let into the room did go up and tie her. "She then threw herself wildly on the bed, her face downward, and began to bite and tear the pillows and bed-clothes. After the first spasm she repeatedly exclaimed, 'Oh! it's Chrues's dog! it's Chrues's dog! it's all over with me—I know it is! 'twas Chrues's dog!'" This was the first time, says the deponent, her sister, that we had known about her being injured by that dog. "She had been bitten in the nose three or four days before her illness, by a little pet dog, but we thought that had got well." "Her barking, howling, and growling were hideous, and exactly like a dog."

Drs. Rawson, Baldwin, and Lindsey are mentioned as having visited and prescribed for the patient. The last named gentleman "came and tested the disease by calling for water; water was procured, but she did not see it—she only heard it being poured into the glass, and the spasms produced by it were dreadful in the extreme, continuous, and truly frightful. All the spasms were not attended with barking, but the most were. The barking continued until next day." Dr. M'Niven and son visited her on Monday night. Nothing prescribed was of any service; indeed it is said that she did not swallow any thing. About a pint of blood had been taken from her, the first night of her attack.

Mr. Jennison's East India Medicine or Spiritus Vitæ was first applied on Tuesday morning, with the consent of Doctors Baldwin and Lindsay. "Her throat was bathed with it; then a tobacco poultice was ordered to be applied by the physicians to her throat and bowels. Mr. Jennison then came, removed the

poultices, and applied the East India Medicine freely to her hands, throat, head, feet, and the joints of her limbs, by the permission of Doctor M'Niven, to whom the operation and properties had been explained." "It was repeated every half hour until about twelve o'clock, when she appeared to recover, and soon called for drink, and not only slept a little, but conversed some." "We had applied the East India Medicine twice before Mr. Jennison came; it had not been used more than two or three hours and a half, after the first thorough application was made, before she called for a drink, which she had not done for several days, and seemed considerable relieved. She asked for buttermilk; it was given her—at first a spoonful at a time. She said she could drink a pail full—I gave her the pitcher—she drank the contents, holding nearly a quart. It was about two o'clock when Mr. Jennison left—she was then asleep. About day-light she had a slight return of the spasms, with delirium, which was immediately subdued on the first application of the East India Medicine."

The preceding are the chief facts as detailed by the sister of Ann in a deposition before a magistrate. What was the disease of this young woman? What was the nature and composition of the remedy used? How did it, provided it did, operate,—by absorption or by sympathy? We profess ourselves unable to answer these questions, or to pretend to guide the faith of our readers in this matter. Perhaps we may be favoured with fuller details of the case from one of the medical gentlemen in attendance.*

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Attached Twins.—The following case is related in one of the French political papers, the *Journal des Debats*, in a letter from Ramborillet:—

"On the 7th of October, a woman of the commune of Prunay-sous-Ablis was brought to bed of twin daughters, but so united as to have the appearance of one body with two heads, four legs, and four arms. Two vertebral columns are perfectly distinguishable, and there are two chests and throats, with the organs of deglutition. There are also distinct organs of evacuation for each, and consequently it is inferred that the whole of the internal economy double; but there was only one umbilical cord. This phenomenon is yet too young for any extensive or accurate observations to be made, but it is clear that the faculties of the two united beings are distinct, as one is frequently engaged in taking nourishment while the other is asleep. The heads are reversed, so that should one be placed on its feet, the head of the other would be hanging downwards with the feet in the air. The length of the two children is twenty inches. The arterial pulsations are isochronic in general, but those of one are a little more frequent than in the other. They have been baptized separately by the name of Marie Louise and Hortense Honore. Their mother is a healthy woman, and was brought to bed last year of a child perfectly formed."

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Medical Missionary Society in China.—We have just seen in the '*Presbyterian*' of this city, an address of the Medical Missionary Society in China, drawn up and signed, on behalf of the committee of management, by Doctors Colledge, Parker, and Bridgman, which we shall probably transfer to the pages of the Eclectic Journal for next month.

As set forth in the address, the present plan commends itself to the countenance and encouragement of every advocate of civilization and lover of religion, inasmuch as through its means the Chinese will be made to receive with readiness the principles of medical science, and a knowledge of its collateral branches, and subsequently become accessible to the important truths of religion, and to

* We have learned, since, that Mr. Jennison's remedy caused vesication of the parts rubbed.

the improvements in jurisprudence, education, and the arts of higher civilization connected with a purer ethics than those which now sway this singular and wonderful people. One of the gentlemen, Dr. Collidge, from whom the address emanates is now in this city, on his return to England, after a long residence in China. He has, we learn, contributed not a little by his own skill and management to inspire the inhabitants of Canton and Macao with favourable opinions of the superiority of the medical art of the western world, and of the philanthropy of its practitioners. Dr. Parker, who left here a few years ago on a missionary enterprise in China, and who, on a review of all the circumstances, has remained since then in Canton, has also contributed his full share, by means of an extensive Eye Infirmary, towards enlightening the people on this subject, and inspiring them with a strong desire to see the benefits, which are experienced at Canton, extended to other parts of the empire.

It ought, amidst many discouragements, to be a source of proper pride and pleasure to reflect, that throughout the whole east, from Thessaly into Asia Minor, Persia, and China, the strongest ground of respect for a Frank or an inhabitant of Europe, and of admiration for his superior knowledge, is a belief that he is possessed of skill in medicine, and is ever able, as when among them he is supposed to be ready, to cure disease and to heal wounds.

Infirmary for the Treatment of Hernia.—We have received a Prospectus of an Infirmary for the Relief of Poor Persons, labouring under Hernia, at 98 Locust street, above Ninth, Philadelphia. It is to be opened on the third of December, under the direction of Dr. Chase, who is already advantageously known for his invention of trusses and other instruments. Dr. Chase will be assisted by Dr. Reynell Coates, as consulting surgeon, whose addiction to the theory and practice of surgery has been of long standing, and whose contributions for its improvement are known to the profession. There is a board of superintendence, consisting of seven gentlemen, three of whom are physicians of the city. For further details we refer to the Prospectus itself.

Medical Examiner.—We omitted to mention at the time, that Dr. Gerhard has been associated with Drs. Biddle and Clymer in the editorship of the '*Medical Examiner.*' Under this triumvirate, the success of the work, already, as we believe, undoubted, will be still more marked and merited.

The Examiner, from and after the fourth of January next, will be issued weekly, at five dollars per annum.

Philadelphia Medical College.—Application is again about to be made to the Legislature, on the part of many physicians of this city, for an act of incorporation of a Medical College, on a more comprehensive plan than has yet been followed in any existing institution amongst us. By the mismanagement and neglect of the friends of the measure now proposed, a charter was not obtained two winters ago. We, at that time, gave our readers a full summary of the scheme of the new College, and took a good deal of pains, and spent much time, which we could ill afford, towards giving it fixedness and form. Little encouraged to farther efforts by the apathy of the crowd, we shall content ourselves with waiting patiently for results to be attempted by others. If the many are interested in a measure of this kind, the many should exert themselves to obtain its accomplishment. The more ardent few need not make hacks of themselves for others, who keep aloof until the prize is won, and then are ready enough to come in for the lion's share.

THE ECLECTIC
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We are indebted to Dr. J. H. Bradford, of this city, for some time a resident physician in Canton, for the following account of a rare case of termination of Hepatic Abscess :

CASE OF LIVER ABSCESS

BURSTING SPONTANEOUSLY INTO THE COLON AND THE THORAX, TERMINATING SUCCESSFULLY.

By D. Stewart, M.D., Surgeon to the General Hospital, Calcutta.

The subject, a near relative of my own, was happily the patient of Dr. T. R. Colledge of China, by whom the case is detailed. Although it was drawn up in haste, and meant only for my own eye, I feel unwilling to withhold from others the instruction and satisfaction which I have myself derived fom its perusal, or from the writer the well-deserved tribute of respect which his professional skill and character entitle him to from his brethren in India.

In reviewing the case, the reader will agree with me, that the patient has owed his life to the nice yet prompt discrimination which led Dr. Colledge to conclude at once that suppuration had taken place before his arrival at Macao, and his resolution, therefore, to abstain from what is called *active* treatment. There can be no doubt that one general bleeding after that time, or one drastic purgative, or indeed any purgative that would have excited much peristaltic action, would have prevented the completion of those adhesions to which the patient's safety is owing. The prudence of the repeated and well measured application of leeches to relieve the pain, and moderate the arterial action, is beautifully illustrated. The surface of the liver had doubtless formed extensive adhesions to all the surrounding parts, and the relief obtained by their repeated application, as it were, to the inflamed organ, is readily accounted for. In the absence of adhesions, leeches seldom give relief, while blisters always do; and on the other hand, blisters in the former case often aggravate the mischief they are meant to subdue, as effectually as they do when applied to the shaved scalp of children affected with cerebral inflammation—the able observation of Dr. Clarke of Dublin.

I have not discovered in the annals of medicine any exactly similar case, and indeed never heard of two abscesses bursting, one up and one down, and ending in so short a recovery, but once. At Berhampore, Dr. W. O'Shaugnessey opened the body of a soldier of H. M. Sixteenth regiment, three years ago, who died of phthisis. He found adhesion, by cicatrix, evidently caused by old abscess to the diaphragm and lungs, and another to the colon. He was not able to obtain the history of the case previously, and had never suspected liver disease; in fact there was none at the time of this last illness.

Case of Mr. J. C. S.—He was seized on the 6th of August, in Canton, with inflammatory symptoms, for which he was leeched on the 10th or 12th, and bled from the arm on the 14th or 15th, and had this treatment afterwards followed up

by a succession of leeching and blistering, and the administration of calomel every night, until the severity of the symptoms gave way. The disease was so far got under before his leaving Canton, that he was considered out of danger by his medical attendants, and was recommended by them to go to Macao for the benefit of a purer atmosphere, where he arrived on the 1st of September, labouring under a relapse of all his former symptoms, but of an aggravated and more strongly marked character. He complained of much acute tenderness over the whole region of the liver, so much so, as to be scarcely able to bear any degree of pressure of the hand upon any part of it. An attempt even to take a deep inspiration caused very severe pain in the right side. His respiration was short, quick, and attended with cough—tongue coated—mouth parched—sharp and quick pulse—anxiety of countenance and great general prostration—symptoms clearly indicating that the inflammatory process had exceeded the *bounds* which admit of a termination of active disease by resolution.

The application of leeches to the seat of pain, which was had recourse to repeatedly, and carried as far each time as his reduced state would admit of, afforded only temporary relief. His bowels were carefully attended to and kept open by means of emollient injections, with occasional small doses of calomel and rhubarb, and castor oil. Counter-irritation, by means of blisters and the tartar emetic ointment, was kept up—the nitro-muriatic bath was tried and persevered in for some time—notwithstanding all which no decided benefit was produced.

The above treatment was pursued until the 13th, when a sudden change for the better, in the character of the symptoms, took place. He felt himself all at once relieved, and was sensible of something having given way within him. On examining his motions next day, a very considerable quantity of purulent matter was discerned in them, and in those he passed for several days after, which sufficiently warranted the opinion that had been held of an abscess having formed in the liver. For ten or twelve days after this he improved considerably, when another return of the symptoms took place. The same remedies were employed as before, together with anodyne fomentations, with the same want of success; he got daily worse, and serious apprehensions were entertained regarding his recovery; when, on the 4th of October, he experienced another sudden change for the better. But this abscess being situated higher in the organ than the former one, burst into the thorax instead of the colon, and the matter was discharged by expectoration. Ever since he has continued to get better, and nothing further was required than a careful attention to the state of the bowels, keeping them open by mild aperients and emollient injections, improving the strength generally by demulcent tonics and a strictly regulated diet, and allaying nervous irritability, and procuring sleep by means of night-draughts containing the acetate of morphia.

A few days ago he felt some uneasiness in the right side—the cupping glasses were had recourse to, but as he could not endure them, leeches were applied in their stead, and with a very good effect; he is now recovering rapidly.

Macao, 22*d November*, 1836.

Shortly after this, Mr. S. sailed for England, convalescent; and, in a letter, dated February 7th, 1837, St. Helena, written in good spirits, he states "he was gaining strength and flesh, and enjoyed the cool weather at sea amazingly."

A CASE OF CROUP IN A CHILD, AGED TWO YEARS AND EIGHT MONTHS,

SUCCESSFULLY TREATED BY HIS MOTHER, IN THE ABSENCE OF MEDICAL ADVICE.

Communicated by Thomas R. Colledge, Esq., Senior Surgeon to Her Britannic Majesty's Commission in China.

The writer of the letter I herewith present, acted with such singular decision and judgment in the treatment of the case it alludes to, and was so very successful in conducting it to a favourable issue, that I have much satisfaction in offering it to the medical public through the medium of your Journal, and I have the more pleasure in giving it to a periodical of this country, as the child's parents are both Americans, although he was born in China.

The little fellow left "the land of his birth" about two years ago, in the bloom of health, to revel among his compeers in this more happy hemisphere.

My object, in bringing this case before my medical brethren, is, to exhibit to them the mother's decision; for she was so situated at the time, that she could not, under the most favourable circumstances as to speed and despatch, have procured medical advice under twenty-four or thirty-six hours; by which time, had she waited, her poor child would most likely have been a corpse, and under these circumstances I shall make no apology for this intrusion upon them; feeling assured, that every intelligent physician will exclaim, as I did, on reading the letter—"This lady has saved her child by her own decided conduct and good judgment; that the fever he now labours under is nothing more than irritation from the calomel; and all the advice that can be added to her own good acts, is, that she now soothe the little sufferer, keep his bowels free, and let nature do the rest." The child recovered perfectly, without any further treatment.

Should this case meet the eye of a parent, who has been less decided when compelled from similar circumstances to treat the awful malady in question, and consequently less fortunate in her practice, I trust that the promptness and decision here manifested will be a salutary precedent. I shall make no comment upon the practice: this is not the point: it is the mother's promptness, decision, and judgment which I so much admire, and which cannot fail to elicit similar feelings in the bosom of the energetic physician.

Philadelphia, 5th December, 1838. T. R. C.

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To Dr. Colledge.

My dear Sir:—William, our little boy, went to bed on Saturday evening as well as usual, and in one hour awoke with every symptom of the croup.

I immediately bathed his feet in warm water, gave him an injection of warm milk and water with salts and castor oil. After its operation, the child's breathing growing much worse, about eleven o'clock I commenced giving tartar emetic every twenty-five minutes, say one grain each time, and he took five grains in all, before it operated. After this, he became quite easy, and about four o'clock slept well. At seven o'clock in the morning, I began with calomel, giving one grain and a half with rhubarb until it had operated three times; he took, I believe, about seven grains of calomel. On Sunday, while giving him the calomel, he was quite bright and playful; but yesterday and to-day he has been very drowsy and listless, with a dry hot skin, and refuses all nourishment,

even to drink. I gave him castor oil yesterday morning; but not being able to keep it on his stomach, I afterwards gave him a dose of salts and senna, which had effect; I tried him again this morning with the latter, but he has kept but little of it down. His tongue looks much coated, and I think his mouth is very sore, which is the occasion of his refusing to take any thing; his lips are evidently much swollen.

I shall now feel much obliged for your kind advice as soon as possible.

Ship ——, *March* 17, 1835. Yours, &c. &c.

SURGERY.

REPORT OF THE SURGICAL CASES AND OPERATIONS THAT HAVE OCCURRED IN THE MASSACHUSETTS GENERAL HOSPITAL,

From May 12, 1837, *to May* 12, 1838.

BY GEORGE HAYWARD, M.D., SURGEON TO THE HOSPITAL.

Concluded from p. 53, December Number.

The following operations were performed during the year:

Amputation of thigh	3	Removal of cancer of breast	3
,, leg	3	,, ,, tongue	1
,, toes	3	,, ,, face	1
,, forearm	1	,, hemorrhoids, internal	3
,, fingers	1	,, hydatid of breast	1
Cataract	2	,, nævus, by ligature	1
Fissure of the rectum	1	,, tumors, various	4
Fistula in ano	6	,, ,, chronic mammary	1
,, urinary	1	,, fungus hæmatodes on abdomen	1
Hare-lip, double	1	,, do. of breast	1
Hernia, inguinal	1	,, testis	1
,, femoral	1	,, tonsils	1
Hydrocele, by incision	1	Trephining	1
,, palliative operation	1		
Ligature of femoral artery	1		
Paracentesis abdominis	1		
Polypus of the nose	2	Total	53
Prolapsus ani	3		

All the patients, with two exceptions, on whom operations were performed, either recovered entirely, or so far as to be able to leave the hospital. The two individuals who died had received severe injury; a leg in each case was literally crushed, and when reaction came on, the sufferings of the patients in the injured part were extreme. The limbs would have been useless if they could have been saved; but this was not possible, nor was it probable that life could have been preserved if they were not removed. One of them was amputated above, and the other below the knee.

The first of these had suffered from copious hemorrhage before his admission, which did not take place till about twelve hours after the accident. A slight reaction, however, had come on, and the circumstances of the case would not justify any longer delay. He rallied somewhat after the operation, and his sufferings were much diminished, but he soon began to sink, and died in about eight hours after the amputation.

The second patient lived several days, but his injury was not confined to the limb. His principal pain was referred to the abdomen, and the contents of this cavity were found, on examination after death, to have been highly inflamed. Though the amputation did not save life, I have no reason to think that it tended

in the least to hasten the fatal termination. This should rather be attributed to the extent and severity of the injury.

It is not, perhaps, perfectly well settled, even at the present day, at what time amputation should be performed after accidents, when this operation is necessary; in other words, whether it should be done immediately, or whether we should wait till reaction comes on. At any rate, it is certain that a uniform practice does not prevail; some surgeons operate without delay, while others prefer to postpone it till the system has in some measure recovered from the shock of the injury.

There are, no doubt, cases in which the operation may be done at once, the constitution not having suffered from the accident. But when the constitutional symptoms are severe, the pulse feeble, the skin cold, and the respiration perhaps laborious, I cannot doubt that the operation should be deferred till these symptoms have passed off. They arise from the shock which the nervous system has received; the local injury at that time is of secondary importance; it adds nothing to the sufferings of the patient, and an operation done when nature is struggling to restore the vital energy, would be likely to cut off all chance of recovery. As soon as reaction takes place, the injured part becomes painful, and should then be removed.

There is also some difference of opinion as to the means that should be used for the purpose of bringing on reaction; some administering alcohol and other powerful stimulants freely, while others disapprove of their use altogether. It is, I believe, safest and best to depend on the application of heat, both externally and internally applied; by means of hot spirituous fomentations over the heart and epigastrium, and mild warm drinks introduced into the stomach. Some cases may possibly require small doses of the aqua ammoniæ, camphor, or wine, diluted with water; but these should be given sparingly, as the great danger is from inflammation, that is so apt to come on after reaction has taken place.

Amputation.—Of the seven large limbs that were removed, six were done by the circular operation. This fact is noticed, from the circumstance that Mr. Liston has recently seen fit to denounce this operation in unqualified terms, declaring it to be "vile and inadmissible" in all cases where there are two bones in the limb. It is not, perhaps, surprising that an individual should have a decided preference to that particular mode of operating which he has adopted; but it is remarkable that he should give a sweeping condemnation of a method which has the sanction of some of the greatest names in modern surgery. The flap operation is better adapted, no doubt, to some cases than the circular; but there are very many others in which I believe that the latter will be found to be the best. In fact, I must confess that where circumstances will admit of the performance of either, I should operate by the circular incision. It has, to my mind, advantages over the other method, that more than counterbalance the greater length of time which is required for its performance. A better stump, it seems to me, is made by it, and the parts heal with quite as much readiness. A patient, from whom I removed the leg above the knee by the circular operation, in June, 1837, walked out in sixteen days after the amputation, the wound being entirely healed. An artificial limb was fitted to the stump, in a few weeks after, and upon this he has walked with great comfort ever since.

Two of the amputations were performed in consequence of that peculiar affection of the knee joint, so well described by Sir Benjamin Brodie, in which a remarkable change of structure takes place, nearly the whole of the interior of the articulation being converted into a gelatinous mass. The patients were both young men, a little more than twenty years of age, of scrofulous habit. The disease had in each existed several years, increasing gradually, but at no time attended with severe pain. The constitution at length becoming affected, an operation was advised. One of them, whose limb was removed more than a year ago, has since enjoyed uninterrupted health. He recovered rapidly, and is the individual to whom I referred as having walked out so soon after the amputation.

The second patient convalesced more slowly; the system seemed to suffer much more from the shock of the operation; but in three or four weeks a favour-

able change took place, and he was discharged from the hospital "well," in forty-four days after the removal of his limb. His health continued good for some months, when the other knee began to be slightly affected, which he at first attributed to fatigue and over-exercise. Whether this trouble has assumed the same character as the original disease, and what his present situation is, I am unable to say, as he resides at a distance from the city, and I have not seen him since he left the hospital.

I have noticed these two cases, because it is not long since this peculiar affection of the knee joint was first described, and because it is not yet well understood. My own experience in relation to it would lead me to believe that it is not so malignant in its character as it has usually been supposed to be, and that if amputation be performed before severe constitutional symptoms appear, the life of the patient will oftentimes be preserved.

Cataract.—Cases of disease of the eye are not numerous at the hospital, and no doubt will become less so, as the means of that excellent institution, the Massachusetts Charitable Eye Infirmary, are more enlarged. We had but one patient with cataract during the year. He had amaurosis in one eye, attended with complete loss of vision, and a cataract in the other, which came on in consequence of an injury. This eye was also slightly amaurotic, and the sensibility of the iris was somewhat impaired. His sight was only sufficient to enable him to distinguish the light, and opake bodies when they passed between him and the light.

I operated twice on this patient, dividing the cataract and capsule, and leaving them to be dissolved. The first operation gave him some degree of vision, but finding, after waiting three months, that portions of the capsule and the cataract still remained, I operated again, and the solution went on more rapidly. Neither operation was followed by much inflammation. When he left the hospital, his sight was so much improved that he could distinguish objects and walk about without assistance. There was reason to believe that a greater improvement would take place, as absorption was still going on, and I have since learnt that this is the case.

Fissure of the Rectum —There is perhaps no surgical operation that affords so much relief as that for fissure of the rectum, and there is hardly any disease that is more painful. It consists in a superficial ulceration of the rectum, sometimes extensive, but more often narrow, and rarely more than an inch in length. It is found more frequently on the sides and posterior part of the gut, than on the anterior. It extends down to the sphincter, and can usually be brought into view, if the patient strains down. When this cannot be done, it can be felt by introducing the finger, though this is attended with great pain.

The greatest suffering is experienced at the time of defecation, and it is then often so severe that the patients are obliged to lie down for some time after. The pain is attributed by Dupuytren to a spasmodic contraction of the sphincter; this seems probable from the relief that the division of the sphincter gives in these cases before the ulcer heals, and from the fact that the same train of symptoms is sometimes met with when no ulceration can be detected. There is reason to think, too, that there is nothing peculiar in the character of the ulcer, as it usually heals so readily after the operation; and this circumstance favours the opinion that it is often the result of mechanical violence, produced sometimes by hardened fæces, and at others by strong efforts made in parturition. It is very certain that it is more frequent in females than in males, and more common in those females who have borne children than in those who have not.

This complaint is aggravated by cathartics, and though anodyne enemata afford some relief, I have not found anything but the operation sufficient for the cure.* This consists in dividing the sphincter, either by cutting from within outwards, or from without inwards, carrying the incision, if practicable, through the centre of the ulcer. The method from without inwards I should think was

* When the ulcer is on the sphincter or exterior to it, constituting what may be called fissure of the anus, local applications, particularly Dupuytren's belladonna ointment, with rest, may cure it.

to be preferred, as you can in this way, by passing the finger into the rectum and cutting upon it, limit more precisely the incision, than when you cut from within outwards. The dressing and treatment are the same as after the operation for fistula in ano.

The patient on whom I operated at the hospital was a healthy man of thirty-seven years of age. The difficulty had existed about four months, and was always greatest when the bowels were constipated. The trouble was steadily increasing; the pain was extreme after every dejection, and his sufferings were so great as to unfit him for his ordinary duties. In all other respects his health was good.

On examination, I found just within the margin of the anus, towards the sacrum, a narrow ulcer, an inch or more in length, quite tender and painful to the touch. The bowels having been emptied by an enema, the operation was performed in the following way. The fore-finger of the left hand having been introduced into the rectum, a spear-pointed scalpel was thrust in outside of the sphincter, till it reached the point of the finger, thus including the sphincter between the edge of the scalpel and the finger. Both were then simultaneously withdrawn, the scalpel cutting its way out through the fissure. Lint was introduced between the lips of the wound, and a compress and a T bandage completed the dressing. For two or three days he had slight spasms about the anus, which were relieved by anodyne fomentations. But after this period he had no trouble; his dejections gave him no pain, though the ulcer was not healed, and he was discharged from the hospital "well," in fourteen days after the operation, in all respects able to resume his ordinary avocations.

Hare-Lip.—For the last two or three years, in performing the operation for hare-lip, I have not used the common hare-lip pins. They are almost always troublesome from their size, and occasionally produce ulceration, and in this way retard, if they do not altogether prevent, the success of the operation. Instead of them I have used, when operating on very young infants, small insect pins, and for larger children, long, fine, steel needles. A head of sealing wax is easily attached to these, and the sharp end, after it is carried through the lips, can be easily cut off by bone pliers. They interfere less with the process of adhesion than the old method, and in a number of cases in which I have used them, I have been much pleased with the result.

Hernia, Inguinal and Femoral.—There was, strictly speaking, no operation at the hospital during the year, for inguinal hernia; the case which was entered as such by the house-surgeon has already been spoken of, in the remarks on inflammation of the hernial sac. In almost all the important particulars the operation there noticed resembled that for strangulated inguinal hernia; but it will be recollected, no doubt, that the sac was found to be much thickened, empty, and gangrenous; that it was removed, and the patient recovered.

The operation for strangulated femoral hernia was performed on an unmarried female, thirty-five years of age. She first discovered the hernia three years ago, and in a year after it became strangulated, and was reduced by the taxis. From that time she had worn a truss, but this had not always prevented the hernia from descending.

About half past eight o'clock, on the morning of the operation, while coughing violently, the hernia came down and became strangulated. She had medical aid at eleven o'clock, and I first saw her at one, P. M. As the taxis had been ineffectually tried, I advised, before further attempts, venesection and the tobacco glyster. These having been used, I saw her again at three o'clock, and made another attempt at reduction. This not succeeding, she was removed to the hospital, and the operation was performed at four o'clock.

This was done in the way recommended by Sir A. Cooper. Two incisions were made, one across the tumor, and the other at right angles to it, in the form of the letter T inverted, ⊥. The sac contained about two inches of small intestine, no omentum. The stricture was so firm that, though strangulation had existed but seven hours and a half, the intestine was almost black, but not gangrenous. As soon as the stricture was divided and the bowel returned, she was much relieved. The operation gave her but little pain, but her sufferings

had been intense during the whole time the strangulation existed. The bowels were freely evacuated by two ounces of the solution of salts, which were given a few hours after the operation, and the patient ultimately did well, though her convalescence was tedious.

This case would not have been noticed, had it not been for a peculiar circumstance connected with it. She was menstruating at the time of the operation; this discharge was then suddenly suppressed, and did not reappear for some months. Though everything connected with the hernia did well, the wound healed kindly, and the bowels were either open spontaneously or easily moved by gentle laxatives, she was feeble for a long time, and troubled with a variety of complaints that could not readily be explained, though they were probably in some way connected with the sudden suppression of the catamenia.

There was a morbid condition of the mucous membrane of the whole alimentary canal, affecting particularly the mouth and pharynx and rectum, attended with a copious secretion of viscid mucus. She had severe pain by paroxysms in the bladder, vagina, uterus, and about the anus, and though these were relieved by leeches and other means, it was apparent that her sufferings were very great. No sooner would one set of symptoms give way, than another, equally distressing, would appear; and this state of things continued, though in a less severe form than at first, for nearly three months, till in fact the menstrual evacuation made its appearance. From that time a perceptible, though gradual, improvement in her health took place.

It is certainly not usual for a sudden suppression of the catamenia to produce such grave symptoms, and it can only be explained by supposing either that she was in a morbid state at the time of the strangulation, or that that, together with the operation, might have rendered her unable to resist causes of disease that under ordinary circumstances would have had but little influence.

Hydrocele.—Of the three operations for the radical cure of hydrocele that are still in use, viz., injection, seton, and incision, neither of them, I think, is adapted to all cases. In cases of old hydrocele, where the tunica vaginalis is so thickened and opake, that there is no translucency in the tumor, no one would probably use the injection. And even where it seems to be proper, it is often very uncertain in its effects, sometimes not exciting sufficient inflammation to cure the disease, and at others exciting so much as to cause no small degree of anxiety. It is unfortunately true, that the pain felt at the time of the operation is no indication of the degree of inflammation that will ensue. I have known a portion of the scrotum to slough where no fluid escaped into the cellular membrane, and where the patient complained of no pain at the time of the operation. Everything was done in the most skilful manner, and I feel that I have a right to speak confidently about it, as I was not the operator.

Again, even in the hands of the most careful, some of the injection will occasionally escape into the cellular membrane, and then a train of troublesome, if not dangerous, symptoms ensues. I am aware that this accident can usually be guarded against, but it will not always be, except by those who frequently practise the operation.

But if this accident does not occur, and the inflammation be not excessive, we often meet with another difficulty, and that is, the operation fails, because there is not inflammation enough.

This, then, must be regarded as an uncertain operation, and I should advise its performance only on healthy adults, in whose case there was no doubt of the nature of the disease.

The *seton* would seem to be, *à priori*, the best mode of operating. It gives but little pain, it evacuates the fluid, it can be made large or small, retained for a longer or shorter period, as the case may require, so as to bring on the precise degree of inflammation that may be necessary. But I tried it twice the last year and failed. The case was a fair one; the patient a healthy boy of nine years old. I had punctured the tumor several times before. I introduced a small cord consisting of four threads; he complained but little at the time; the water oozed out, till it was all discharged, and the testicle was so much swollen at the end of four days as to fill entirely the tunica vaginalis. The cord was

then removed, as he complained of the soreness; the swelling subsided, but in three weeks effusion took place again.

After waiting more than a month, I repeated the operation, using a cord double the size of the other, and retaining it there twice as long. It produced similar effects to the other, and at the expiration of two months after its removal the fluid was again effused. This shows that the common opinion, that the disease will return in a month after the operation, if at all, is not correct.

From these experiments I shall not be inclined to try the seton again, as I cannot do it under more favourable circumstances.

The operation by *incision* is usually regarded as a very severe one. I have not found it so, though I have done it very frequently. It, to be sure, requires the patient to be confined to his bed usually three weeks; it is attended with a considerable degree of soreness and some pain; but, on the other hand, I believe it to be perfectly safe and always successful. It is unnecessary to describe the mode of doing it, as it must be familiar to every one who is at all acquainted with surgical practice.

This operation is certainly to be preferred to the others in all cases where there is any doubt as to the nature of the disease, for the incision settles that question; and in those where the other operation has been tried and failed.

Within a few years a new method for the cure of hydrocele has been introduced, and, if we might trust the published accounts, it has been attended with great success. I allude to the mode recommended by Mr. Lewis and Mr. Travers, of Great Britain. It consists in puncturing the tumor in one or more places with a small needle. A drop of fluid usually escapes at each puncture, and when the operation succeeds, the part from half an inch to an inch in diameter around the punctures becomes œdematous, the whole of the fluid, in forty-eight hours, is absorbed, and effusion does not again take place. This is the account given of it by its advocates, but it does not accord with my experience. I have tried it in seven cases, and repeated it several times in some of them. I have followed as exactly as I could the directions laid down for its performance; I have used various kinds of needles, and I have not succeeded in a single case. Were it not that others with whom I had conversed had been equally unsuccessful, and that I had not met with an individual who had succeeded, I should have attributed it to my own want of skill.

In one of my patients the œdema formed around the puncture and the fluid disappeared in six-and-thirty hours, but was effused again in three weeks. This was the only case in which there was a prospect of a cure.

I shall not abandon it without further trials, for if it would answer as a substitute for the operation now in use, it would be a great improvement in surgical practice.

Ligature of the Femoral Artery.—This operation was performed in consequence of secondary hemorrhage after amputation below the knee. The patient was very feeble, having suffered from the affection of his limb eighteen years; this latterly had assumed a fungoid appearance, and had occasionally bled. It was found, at the time of the operation, that the posterior tibial artery was softened and diseased to such an extent as to render it difficult to secure it. This was at length accomplished, and the ligature remained on twelve days. It then came off spontaneously, and in twenty-four hours after an arterial hemorrhage took place. This was arrested by the tourniquet; a second occurred on the following day, the compression having been removed from the artery, and a slight one again in the night. The whole amount of blood lost was inconsiderable, but he was already so much reduced that the loss of any was an injury. It was, therefore, determined to tie the femoral artery, and this was done thirty-six hours after the first hemorrhage. He lost no blood, and he suffered but little pain in the operation. The wound and stump both healed kindly, and in a few weeks he was discharged, perfectly well, from the hospital.

It would probably be thought best in any similar case to tie the femoral artery instead of searching for the bleeding vessel in the stump. Be that as it may, it was clearly the only course that could have been safely adopted in this instance. The patient could not, probably, have borne the suffering and loss of blood to

which the other method would have subjected him, and if the artery could have been found and tied, it is not likely that it would have answered the purpose, as the vessel at that part was in a diseased state.

Prolapsus Ani.—When this complaint is in an aggravated form, it is well known that an operation is often performed for its relief. This consists in removing a part of the prolapsed portion, and when cicatrization takes place, the contraction is such that the difficulty is in a great measure obviated. This operation was formerly done either with a knife or scissors, and I should have continued to have used one or the other of these instruments, if I had been guided by my own experience alone. In no case has the use of them in my practice been followed by alarming hemorrhage, and only in one instance by a serious one.

But with others the result has sometimes been different. There are accounts of severe and even fatal hemorrhage after this operation with the knife, and a prudent surgeon, therefore, would hardly feel justified in exposing his patient to so much hazard, if any other mode could be devised.

I am satisfied, from several trials, that the operation by the ligature is perfectly safe, equally efficacious, and hardly, if at all, more painful than the old method. The operation can be readily done in the following way. An enema of warm water should be first administered, and when this comes away the prolapsed portion can usually be thrown exterior to the sphincter. It can then be seized with a double hook, which should be held by an assistant. A needle, armed with a double ligature, should then be passed under the base of the prolapsed portion, the needle cut out, and one string tied firmly in one direction, and the other in the opposite. The part should then be carefully returned within the sphincter, and the ligatures allowed to hang out at the anus. If the pain be severe, an anodyne enema, or an opiate by the mouth, or both, should be administered. The patient should keep in a horizontal position, and live on a mild, liquid diet for a few days, and take a gentle laxative on the second day after the operation. The ligatures usually separate in from five to ten days; I have rarely known them to come away sooner than this, and in some cases I have seen them retained much longer.

This operation is the same as the one recommended by the late Dr. Bushe, though I had practised it some time before the publication of his work. It will be found, also, a very safe and effectual mode of removing hemorrhoidal tumors, there being the same objection to the use of the knife in this case as in that of prolapsus. When the tumors are exterior to the sphincter, they may be freely cut off; the hemorrhage is never troublesome.

It is no unusual thing to find, after the operation for prolapsus and internal hemorrhoids, that the patient is troubled with stricture of the rectum. This is of course produced by the cicatrization, and is in most cases readily overcome by the use of a rectum bougie. If the patient should continue to use this occasionally for a length of time after the operation for either complaint, there will be much less danger of a return of the difficulty.

Another important means as a preventive, is the daily use of an enema of cold water. This should be thrown up in the morning, just before the usual time for a dejection, and it will in most instances produce the desired discharge from the bowels without pain. From a gill to half a pint of water is sufficient.

Nævi can also be removed by ligature, used in the same way as in the two other cases. When the nævus is very large and firm, I have sometimes, in addition to tying it in this way, passed a long slender needle under it, introducing it in the sound skin at some distance from the tumor, and bringing it out in a similar way on the opposite side. I have then passed another needle at right angles to this, and around the two I have carried a strong thread several times, drawing it tightly as possible, and then tying it. I have never known this to fail.

This operation, even on young children, produces much less irritation than could have been supposed. I have tried it upon them at all ages, and I have never witnessed any alarming or severe symptoms. The pain, whatever it may be at the moment, soon passes off, and the child generally becomes quiet in a few hours.

Removal of Cancer of the Tongue.—The operations for the removal of cancer of the tongue, that have come under my observation, have rarely been successful. The disease usually soon reappears in the neighbouring parts, apparently more malignant in its character, and certainly more rapid in its progress, than before the operation. I believe that I can truly say that, with perhaps one exception, the disease has in every instance returned. In all the cases, the diseased part was entirely removed, and in some of them the actual cautery was applied to the remains of the tongue, in part for the purpose of arresting the hemorrhage, and partly to eradicate completely the disease.

Sir Everard Home thought that much was gained by using the ligature instead of the knife. In the only instance in which I tried this, it was wholly unsuccessful. The case was a fair one; the disease was limited; the whole of it was removed, and the patient in other respects healthy. Yet the wound had hardly healed before the disease reappeared, and went on with great rapidity till it destroyed the patient.

It seems somewhat singular that cancer of the tongue should be so unmanageable, when the operation for cancer of the lip succeeds more often than that for the same disease in any other part of the body. It is true that some have supposed that the eroding ulcer, with everted and hardened edges, that is so often met with on the lip, has not the malignancy of true cancer. But this opinion does not seem to be well founded, for it is certain that if this ulcer be left to itself, or improperly managed, it will terminate in death.

The operation for cancer of the tongue, to which I referred above as probably successful, was performed at the hospital in the month of January last. The patient was a healthy man of good habits, thirty-eight years of age. The disease had existed five months. It appeared, as it usually does, in the form of a small, hard tubercle. It came on the tip of the tongue; it is more often met with on the side. It increased gradually, and gave him no pain till about two months before the operation. At the time of his admission it was quite painful and very troublesome from its size and situation, being somewhat larger than a nutmeg. It had perceptibly increased during the week before his admission.

As the use of tobacco is supposed by many to have an influence in the production of cancer of the tongue, I made the inquiry as to this patient's habit in this respect, and learned that he had never chewed or smoked tobacco, and had used snuff very sparingly.

The operation was performed in the following manner, the day after he entered the hospital. The tongue being protruded, it was seized with a long-bladed polypus forceps transversely behind the tumor, and firmly compressed. The tumor was then taken between the thumb and fore-finger, a sharp-pointed scalpel was passed behind the tumor through the healthy part of the tongue, and about one-third of the organ was cut off. A ligature was applied to each of the lingual arteries. There was scarcely any blood lost at the time, owing to the compression made by the forceps, and no hemorrhage took place afterwards. The wound healed entirely in three weeks, and in a month the patient was discharged well. The disease, I presume, has not returned, for if it had I have no doubt that I should have heard from him, as he lives only a few miles from the city, and I requested him, when he left the hospital, to inform me if he had any further trouble.

Trephining.—An account of this case has already been published. The patient, a clergyman, had suffered twelve years from epilepsy, arising from a diseased state of the cranium. The carious portion of bone was removed, with complete relief. Six months have elapsed since the operation, and I have reason to believe that during the whole of the period he has had entire exemption from his epileptic paroxysms.

There are several other cases upon which I should have been glad to have offered some remarks, had I not already exceeded the limits which I proposed to myself. I, therefore, close with the expression of a hope that those who have the charge of similar institutions, in our country especially, would, from time to time, give reports of all the cases that come under their care. In this way our hospitals will be rendered still more useful to the public.

Boston, October 1st, 1838. *Boston Med. and Surg. Jour.*

ON THE TREATMENT OF FRACTURES BY THE APPAREIL IMMOBILE,

As modified by Messrs. King and Christophers, with Cases; being the substance of a Lecture delivered at the Blenheim Street Dispensary, Aug. 1st.

By T. King, M. D., Surgeon to the Dispensary.

In submitting to the judgment of the profession a modification of the *Appareil Immobile* for the treatment of fractures, I deem it may be advantageous to inquire what are the principles on which the treatment of ruptured bones ought to be founded; in other words, what are the indications which require to be fulfilled in that treatment. For the purpose of ascertaining what they are, it will be necessary to revert to the process which nature adopts in the cicatrization of bone—to the phenomena observed in the formation of the callus. This kind of inquiry ought to be made, whenever new plans are proposed for the treatment of any disease, in order that a just estimate may be formed of their value. When we know what the natural process of cure is, we generally know also pretty well what measures are best suited to protect, facilitate, and ensure it. We must afterwards appeal to experience to have them ratified or annulled, according to the results obtained. With regard to fractures, then, we shall first endeavour to discover the principles of treatment, *à priori*, and examine how far the modification of the appareil immobile accords with them; and then state the results of the experience we have had in using the modified apparatus.

It appears that, when a bone is broken, the ruptured vessels of the osseous tissue, medullary membrane, and surrounding parts, give issue to more or less blood, which spreads itself around the fragments, and which, after some hours, coagulates. In a short time, all the parts involved swell and throw out lymph. The blood or its red part is very soon absorbed, and a tenacious, viscid matter is found between the fragments, opposite the walls of their canal. This matter is to form the ultimate cicatrix, and although joined to, and continuous with the general mass of lymph existing on the outside of the fragments and within the medullary canal, is distinct from it. At the end of eight or ten days, this mass becomes firm, pale, and semi-cartilaginous, while the lymph opposite the walls of the canal remains gelatinous. Its consistency continues to increase; it becomes more circumscribed, and finally ossifies. It is this mass, forming a kind of soldering on the outside and on the inside of the walls of the medullary canal, which Dupuytren (to whom I believe we are indebted for a knowledge of most of the details concerning the cicatrization of bone) has termed the temporary callus. Its ossification is complete about the fortieth or fiftieth day. It is only after this time, that the substance between the walls of the canal, which is to be the permanent callus, ossify and knit the ends of the bones firmly together. When this has become ossified, the mass outside and inside the canal, that is, the temporary callus, is absorbed.

When the fragments are not kept in apposition, the phenomena are different: the temporary callus remains, and the medullary canal is not re-established. When the fragments are exposed to the air, as in cases of compound fracture, they unite, like the soft parts, by granulation. It is a remarkable fact, that the details furnished by Dupuytren are in accordance with the doctrines of our Hunter on the union of soft parts, and that the ancients were not far from the truth when they supposed the fragments of a broken bone became united by a plastic matter exuded between and around them.

We perceive that the process, by which the fragments of a broken bone unite, is a long one—one in which a great and long-sustained effort is made, producing, through divers changes, a great result. It appears evident that it can be well carried on, only when the fragments are kept still. The first principle, therefore, to be observed in the treatment of fractures, is to keep the broken parts in a perfect state of repose; and this involves another—that any apparatus applied for the purpose should press equally on every part of the limb. We want, if possible, to clasp the bone around, as if it were naked; and the more exactly the limb is embraced, the more efficiently will it be supported.

As the callus undergoes divers changes, not only with regard to consistency but also as to volume, the soft parts must also be subject to changes of position, which cause the size of the limb to vary. But the size of the limb will vary most, on account of the inflammation resulting from the injury the soft parts usually receive from the cause producing the fracture. From this variation of volume we derive the principle, that the apparatus applied round the limb should expand and contract accordingly.

As the progress of cure is a long one, as it takes from forty to fifty days to give solidity to the callus, and that complete privation of exercise for this time is detrimental to the whole body, more especially so to the joints in the neighbourhood of the fracture, which thereby become rigid, and not unfrequently the seat of incipient anchylosis, it must be a principle of great importance, that the apparatus applied should admit of exercise of the body, and of the joints near the fracture, to the fullest possible extent compatible with the stillness of the fragments themselves.

If we inquire how far the apparatus usually employed answer the indications required, we shall find them in many respects defective. The splints, which constitute the chief part of such apparatus, and on which we rely to keep the limb steady and motionless, cannot be made to press equally; and, when the limb is surrounded by them, they are usually fastened so that, if any variation occur in its volume, the box they form is in nowise susceptible of enlarging or diminishing accordingly. Whatever padding is employed to fill up the hollows between the splint and the limb, the pressure can never be perfectly uniform; and it has the inconvenience of keeping the parts in a state of heat. Pasteboard splints can be made to fit more exactly; but even these cannot be made to wrap round the limb with great nicety. Impressed with these defects, Seutin conceived that a bandage, rolled round the limb with perfect exactness, might be converted into one entire hollow splint, case or mould, sufficiently strong to prevent motion. He effected this object by applying successive layers of bandage, with a thick coating of paste to hold them together, between each layer; and when the paste is dry, the limb is thus encased in a box or mould, which exactly fits it. It is impossible to deny that this apparatus accords with the principles we have deduced, and fulfils the indications much better than those usually employed. It presses equally on every part, and possesses sufficient resistance to supply for a time the place of the bone. It is, however, open to the objection, that it does not expand and contract as the limb may swell or diminish. In some cases, I believe, it has been necessary to remove it; and the proposal to cut it down in several places, so as to convert it into several splints, first led to the modification we have just now introduced. This proposal was made by a medical gentleman whom I was attending for a fracture of the fore-arm. Very shortly after this, I was called to treat a fracture of the humerus. The limb was in a state of tumefaction, which made me fear the absolute confinement of it in Seutin's apparatus; and I employed straight, separate splints, such as the French use. When the callus had become sufficiently strong to admit of some little motion, as the patient complained of the weight of the apparatus and the cramped position of his arm, I applied the apparatus of Seutin; but, as the limb was still tender, and swelled a good deal towards evening, I considered it would be advantageous to slit the apparatus open along the inside of the arm, so that it might yield and return upon itself according to the variation in the volume of the limb. It answered the purpose tolerably well, but was not sufficiently elastic to follow the limb in its changes of volume. In talking the matter over with Mr. Christophers, who was attending the case with me, it occurred to him, that if it could be made so, it would be a considerable improvement; and the means he suggested, which are as simple as ingenious, I immediately adopted.*

* He proposed applying around the apparatus slit open, a certain number of elastic straps, made of India-rubber, with buckles which admit of their being drawn to the requisite tightness. They are rather more than an inch wide, and rather longer than is necessary to encompass the limb. Four of these were applied, and converted the apparatus into a case sufficiently elastic to follow the changes in the volume of the limb, and yet of

I cannot help thinking that, if made light and applied with care, it will answer the purpose admirably. The results of our experience of its employment in cases of fracture will appear in the following cases :—

Case I.—Mr. Hemming, of No. 6, Piccadilly, fell down, about two years ago, and severely lacerated his right arm, in the neighbourhood of the condyles, which, since the accident, has been subject to swelling and pain. About two months ago he was thrown from a gig and fractured the humerus of the same side, at the upper part of the inferior third. There was considerable contusion and the whole limb became much swollen. I applied the ordinary apparatus for fractures of the humerus, which required great attention, on account of the inflammation of the soft parts. At the end of three weeks I substituted Seutin's bandage for that before employed, to the great comfort and satisfaction of the patient. I took, however, the precaution to slit it open, after it had become dry, along the course of the nerves, on the inner region of the arm. A great amelioration followed this change of apparatus. As, however, Mr. Christophers suggested, that it might be made more perfect by the employment of elastic bands, and as he had the kindness to prepare them without delay, I applied them, and found them fully as advantageous as I had anticipated. The case has gone on well, the patient having been able to move the limb a good deal and to take general exercise ever since the last apparatus was applied.

Case II. (as drawn up by Mr. Christophers.)—Elizabeth Dixon, aged eleven months, residing No. 1, Phœnix Street, became a patient of the Blenheim Street Dispensary, June the 19th, 1838. She is a strong, healthy child, not yet weaned. Her mother gave the following account: my eldest daughter, aged ten years, was carrying Elizabeth on one arm, and drawing a child's chaise with the other, when the child suddenly sprang backwards and fell on the pavement. She cried but little at the time; but, when put to bed, exhibited symptoms of great pain, and would only lie with her shoulders and pelvis raised. In this position I found her the next morning; she was exceedingly irritable, and apparently in much pain. There was a bruise, with considerable swelling on both knees, and a cut on the upper lip. Not feeling satisfied as to the extent and nature of the injuries, I called in Mr. King, who detected a fracture rather below the middle of the left femur. We applied Seutin's apparatus, which appeared to do well for two or three days, when the child seemed uneasy. The uneasiness was diminished by a longitudinal division of the apparatus, along the inside of the thigh. As soon as I had seen the advantage of the elastic bands, I added these to the apparatus; and ever since, the child appeared to move the body with greater security, and to be quite free from pain, although left to play on the floor with her brothers and sisters, without that care which the case appears to demand. The patient is now quite well.

Case III. (related by Mr. Christophers.)—S. Tomlinson, aged 49, a painter, residing at No. 10, Rose Street, Greek Street, became a patient at the Blenheim Street Dispensary, July 13th, 1838; he stated his case as follows :—"I was helping to carry a heavy case down stairs, and when nearly at the bottom of the flight, I thought there were no more steps, which caused me to make a false step, and my foot to slip under me. On getting up, I was unable to stand, and reached my home only with the assistance of my friends." The patient was first seen by Mr. Andrews (Mr. King's house pupil) and myself. Mr. A. dis-

sufficient strength to afford the requisite support. Seutin's apparatus, thus modified, fulfils, as nearly as possible, and much better than any other, all the indications required; and it must be evident that it will be even a greater boon to the patient affected with a compound fracture than to one whose fracture is simple.

In case the limb undergo a considerable diminution of volume, it will only be necessary to remove a longitudinal strip of the apparatus, instead of opening it by a longitudinal incision; and the strip should, of course, be removed or the slit made along that side of the limb on which the nerves and vessels exist, and which can least bear pressure. We deem it not improbable that the apparatus, thus modified, will be found useful in the treatment of many diseases, where it is essential to keep the parts motionless, without exercising an unyielding resistance, or a pressure in the least degree unequal. Mr. Christophers proposes to employ it for that troublesome disease—a varicose state of the veins.

covered a fracture rather below the inferior third of the left fibula. At four o'clock, Mr. King applied the apparatus of Seutin, although there was considerable pain, with swelling about the ankle. Ten hours afterwards, upon the advice of Mr. King, I cut open the bandage, and applied my elastic India-rubber bands.

14th.—At eleven o'clock, the limb had swollen, and the margins of the apparatus were a little apart; but the patient was free from pain, and seemed comfortable: he kept his bed for the four following days, and was quite easy. On the fifth day, he was able to move from his bed with crutches, the leg being kept in a sling. Since this time he has been able to take more and more exercise; the swelling has subsided, and the lips of the bandage are in contact. He is now nearly well.—*Med. Gaz.*

SUCCESSFUL DIVISION OF THE ADDUCTOR LONGUS FEMORIS MUSCLE,

FOR DEFORMITY AND CONSEQUENT LOSS OF MOTION IN THE INFERIOR EXTREMITY.

By Paul F. Eve, M. D, Professor of Surgery in the Medical College of Georgia.

In the XI. No. of Vol. II. page 671 of this Journal, the editor has been pleased to make the following remarks, concerning an operation, the result of which I now design presenting the profession—"We are happy in having it in our power to remark, that a few days previous to that on which the *Gazette Medicale* came to hand, which contained the following case and operation of M. Lutens, a case of similar nature was presented for the inspection of the Professor of Surgery in the Medical College of Georgia, Dr. P. F. Eve, who at once decided on an operation for extirpating the diseased and disorganized muscle, and his patient is now under preparation for the operation. The muscle affected in this case is the adductor longus femoris, causing an inconvenient and distressing adduction of the left lower extremity. The particulars of this case we hope to afford our readers in a future No. of this Journal. Dr. Eve has not yet seen the March No. of the Gazette Medicale." The operation is then described as performed by M. Lutens, Surgeon to the hospital at Antwerp, upon a sailor, for retraction of the leg, the notice of which in the French Journal concludes, by stating that a similar operation has subsequently been executed with success by M. Duval, of Paris.

It was in the latter part of last May (1838), that the patient upon whom I have just operated, called upon me. The editor of the Southern Medical and Surgical Journal has correctly stated, that I had not then seen a notice of the operation of M. Lutens. This case was published in one of the March Nos. of the Gazette Medicale de Paris, which did not reach here until June, a few days after it had been decided in consultation with Professors Anthony and Newton, to operate on my patient. Dr. Newton, after our meeting, addressed me a note calling my attention to the No. of the French Journal just mentioned.—This was the first intimation I had of the case of M. Lutens.

The two cases, however, differ materially. In that of M. Lutens as well as in the one of M. Duval, the Stromeyrean principle, (the division of a tendon to cure deformity and consequent loss of motion,) was simply acted upon; while in the case in which I operated, a muscle was divided. Again, they operated to remedy a defect of the leg; I for that of the thigh. Their operation was near the femoro-tibial articulation: mine near the coxo-femoral.

The history of my patient previous to his application to me, is presented in the following letter—"From infancy to fourteen years of age, I was strong, active and remarkably healthy, and of good constitution. When fourteen, or about that period of life, I practised night-hunting to a great extent, and occasionally fishing; would sometimes lay on the wet ground, or remain on the bank of muddy creeks all night. In the month of February, 1829, I felt one evening an aching in the left side of my shin-bone, and a sharp ketch on the inside of my thigh, with acute pain whenever I moved off a high step. At night the contraction in my thigh became very violent, and the pain extended from the groin to the knee. The first two or three weeks of the attack, the suffering was so excruciating that it rendered

me almost senseless. At the expiration of this time, the pain gradually moderated. I lay on my back with my legs drawn half up for four months, without my position being altered; after which I was able to be turned on my right side with a pillow between my knees. At the end of six months the pains entirely subsided, but left me drawn up as before described. I was now lifted out of bed, and gradually improving, I ventured to use crutches. The contraction was such that for a long time I could apply only one-half of my left foot to the ground—it was about eighteen months before I walked at all without a stick.

"During the first year I was up, there came a small ulcer or sore, discharging bloody matter, just below the left buttock. I attributed it to my sitting so much.

"In the commencement of the attack, Dr. Alexander Jones, then of Lexington, Geo., was my physician. I have also applied a multiplicity of remedies to my thigh, but all to no purpose. I at length resolved to let nature take her course, and for the first five years I made considerable improvement, though it was always with great inconvenience, stiffness, soreness and pain, that I took exercise. For the last three years, I have been pretty much upon a stand; if anything, getting worse.

"It has now been more than eight years, since this disease has been seated in my left hip or thigh, and have not been able for the time mentioned, to ride a horse half a day without great soreness and contraction of the limb affected, apparently shortened at times two or three inches. I have also not been able to walk half a mile without debility, and the least exercise would produce great suffering. I walk with my foot turned in, which increases more and more as I exercise.

"Signed, ALLEN A. BEALL.

"Oct. 21st, 1838.'

On the 30th of May last, having procured a suitable place for my patient, I made a minute examination of his case. He had a considerable limp in walking, more especially when he commenced to walk, and invariably used a stick. He is a very muscular and robust man, aged 22. His left extremity was full one inch shorter than the other, nor when placed in the horizontal position, would traction reduce it much. Both the thigh and leg, are much smaller than the right. The foot was turned inwards, and the whole limb inclined in this direction. The foot could not be carried out farther, than about twelve inches from the median line of the body. There was a small depression and a round cicatrix near to the left ischium. In the internal and upper third of the thigh there was a hard substance, feeling like a hempen rope situated just under the skin. It was about four inches long by one and a half broad. However relaxed the thigh might be made, this diseased mass still presented the same resisting, insensible, cartilaginous hardness. It could be isolated from the surrounding tissues, all of which appeared to be normal. It was taken for a fibrous degeneration of the adductor longus femoris muscle. The shortening of the limb was attributed to the permanent disorganization of this muscle, with the inclination of the pelvis from long habit. There was no symptom of disease in the hip-joint.

Before resorting to an operation, it was deemed prudent to place Mr. Beall upon a treatment, with the view of effecting some change, or of ascertaining something of the nature of his disease. This consisted chiefly in the use of warm bathing, heated vapour, and the most stimulating liniment, which were continued for about twenty days, without producing any appreciable benefit. Mr. B. then left for his home in the interior of Georgia, to make his arrangements for the operation which had at first been proposed to him.

He again called upon me early in October, and submitted to the operation the 9th of this month. Assisted by Professors Dugas and Newton, an incision was made, commencing at the pubis and cutting upon the internal edge of the affected muscle, and extending it about five inches, in a semi-lunar direction. The surface of the adductor longus was then exposed, and cautiously divided with the knife and a pair of scissors, about three inches below its origin from the pubis. The upper portion was found to be converted into a fibrous tissue, which slightly grated under the knife, but the portion below the section contracted, so as to separate the cut edges of the muscle about an inch. Its degeneration therefore, did not extend throughout its whole length, but the muscular tissue appeared to be healthy an inch below where it was divided in its course to be inserted into the os femoris.

We removed from the upper portion a small section for a pathological specimen. Two small arteries required a ligature. The wound in the skin was closed by adhesive plaster, and a compress and roller completed the dressing. The patient was put to bed, and a two pound weight attached the next morning to the left foot, and allowed to hang out of the bed-clothes over the back of a chair, so as to make traction in a horizontal direction.

There was no material alteration in the length of the limb until the next day, when it commenced gradually elongating, so that when dressed on the fourth day after the operation, the difference between the two lower extremities did not exceed a quarter of an inch. At the end of a week, even this difference had disappeared, and Mr. Beall commenced using the limb. His friends, Dr. Wm. Butts of Warrentown, and Dr. Joel Branham of Eatonton, visiting him during the second week of his confinement, and did not remark any difference in the length of the two extremities. On the 15th day after the operation, my patient was out in the streets walking about, with scarcely any impediment; and on the 28th of Oct., the 19th day since the division of the muscle, he returned home on the Georgia rail-road.

The left inferior extremity has not only been restored to its original length, but all its motions have been so far regained that the patient, before his departure from the city, could turn the foot and carry the leg and thigh outward to nearly the same extent and with almost as much freedom, as on the sound side; he was daily improving in these respects, and is in a fair way of realizing from the operation all the benefits that had been proposed.

Supposing the disease for which the operation was performed in this case, to have been the result of acute rheumatism, may not similar cases be relieved by surgical, in addition to medicinal treatment.—*South. Med. & Sur. Jour. Dec.* 1838.

CURE OF TORTICOLLIS BY SECTION OF THE MUSCLE.

(From the Lancet.)

In our last number we published some remarks by M. J. Guerin on the cure of torticollis by section of the sterno-cleido-mastoid muscle. In the "Archives Generales," for May, 1838, we find an interesting memoir on the same subject by M. Fleury, which was published before that of M. Guerin, and of which the following is an analysis:—

The author commences by a description of two species of torticollis; one, generally congenital, depends on a primitive change of structure in the bones of the neck; in the second, the soft parts only are affected; this latter species of torticollis may depend on a variety of causes, of which rheumatism is by far the most frequent. In other cases it is produced by neuralgia, tic-douloureux, &c.

Rheumatismal torticollis frequently affects children, and is readily subdued by the usual remedies employed against rheumatism. On the contrary, spasmodic torticollis, not connected with rheumatism, is sometimes a very obstinate disease. In most cases it is produced by contraction of the sterno-cleido-mastoid muscle (Boyer), and especially by the sternal portion of the muscle; but Stromeyer has seen the deformity produced by the clavicular portion; and Gooch mentions a case of torticollis occasioned by spasm of the platysma myoides.

Numerous methods have been proposed for the cure of torticollis. Mechanical means generally fail. Stromeyer saw a child on whom machinery had been tried for three years without the slightest advantage. Internal medicaments do not seem to act more efficaciously, and an operation, generally speaking, affords the only chance of a radical cure being obtained. But to what operation is the surgeon to have recourse? Bugalsky, of St. Petersburg, regarding the disease as a neuralgy, divided the two accessory nerves of Willis, but without producing any effect. The division of the affected muscle was next tried, but various modes of operating were employed.

Some surgeons divided the skin, cellular tissue, and muscles by successive strokes of the knife, and this method has recently been followed by Dupuytren, Roux, Magendie, and Amussat.

The second process consisted in dividing one of the tendinous attachments of

the contracted muscle. This was first done by Roanhuysen in 1774, but soon fell into oblivion. It was taken up, however, by Dupuytren, who repeated it with success in 1822, and again by Stromeyer, in 1836, since which time the operation has frequently been performed by the German surgeons.

After the preceding historical sketch, M. Fleury proceeds to the detail of a case of long-standing torticollis cured by division of the tendon of the sterno-cleido-mastoid muscle. A girl, nineteen years of age, after frequent attacks of pain and convulsive movements of the muscles of the neck, became affected with torticollis. On the 3d of February, 1838, she entered the Hotel-Dieu, where local treatment was employed without any effect; the patient was unwilling to submit to an operation, and went to the Hospital St. Louis, in hope of deriving benefit from the baths, but was again disappointed. She now consented to an operation being performed, and this was done by the author on the 11th of March. The patient was seized with delirium, and very severe symptoms soon after the operation, but these yielded to antispasmodics, and a complete cure was obtained on the 20th of March.—*Arch. Général.*, May 1838.

PATHOLOGY AND THERAPEUTICS.

ON THE PATHOLOGY OF THE OVARIA.

To the Editor of the Medical Gazette.

Sir,—In the 17th volume of the *Medical Gazette* I communicated an interesting case of pregnancy of the Fallopian tube: since then I have had repeated opportunities of observing various diseases of the ovaria, and have selected for insertion in your valuable periodical three cases, which, from their nature, I am induced to believe will be interesting to your readers. I shall not here enter into the physiology of the uterus and its appendages, since, indeed, these have been so fully explained by various authors on midwifery. However, it must be borne in mind that the several parts of the internal genitals of the female are peculiar to themselves, and perform functions different from, although in sympathy with, each other, and are severally liable to various diseases. My attention has been particularly drawn to diseases of the ovaria. In their function they are greatly analogous to the testes of the male. From their safe lodgement within the abdominal cavity, we should naturally presume they would not be so liable to disease, but experience teaches us the reverse. Their peculiar function of secreting the humores fecundi, and the extraordinary manner in which it is intermingled with the semen virile, will easily account for many obstructions of the natural functions of these parts. The internal genitals of the female are more amply supplied with blood than those in the male, the arteries are more capacious and lax than others, and these parts are consequently more liable to inflammation, both acute and chronic.

The following is a case of

Chronic Inflammation of the Left Ovarium.

In November 1831, I was requested to see a young woman of stout robust appearance, of light complexion, and sanguineous temperament, aged 23 years. She was labouring under severe pain, and an enlargement of the right side: these had existed for several months previous to the time of my seeing her, and many remedies had been ineffectually employed. The catamenial discharge had been very irregular, and latterly had altogether ceased. She complained of a fulness and throbbing of the left side, with a feeling of stiffness extending to the thigh: great languor and debility; thirst and fever towards the evening; and she would frequently sit for a whole day without moving, unless urged to do so. On examination, the left side was considerably enlarged, the left iliac and a portion of the hypogastric regions being occupied by a tumor of a decidedly solid charac-

ter, and about the size of a moderate melon. It appeared moveable, and gave her great pain when handled. On pressure over the lumbar vertebræ, great pain and uneasiness were occasioned, at times producing sickness. From the situation of the tumor, and the great derangement of the uterine system, I had no doubt of it being an enlargement of the left ovarium. This young woman continued under my care for several months, during which time the various preparations of iodine were given with great advantage, together with cupping, bleeding, and blistering; till the pain was entirely removed, the menstrual discharge re-established, and the enlargement considerably reduced. Some few months after this period my patient got married, and since then has borne her husband several healthy children, and she herself now enjoys prosperous health.

REMARKS.—The case just detailed was one of simple enlargement of the ovarium from inflammation; and the sufferer was a young woman who had been brought up to hard work, frequently in the habit of lifting great weights, and more frequently exposed to heat and cold, which doubtless had much to do in exciting the disease. As I have before observed, there exists great sympathy between all the parts of generation; so we can more easily account for these parts being very liable to sympathetic inflammation. When we consider how many patients seek medical relief for an anomalous pain in the side, with other symptoms of general derangement of the system, it demands from us a more accurate observation as to the latent cause of these complaints. Inflammation once excited in the ovaries will put on a peculiar character, influenced mainly by the habit and constitution of the body. For instance, we may have a simple case, like the one just related, or it may form an inflamed tumor, and run on to suppuration, or excite disease of a sarcomatous character, similar to the second case related in this paper, or a diseased action, which will produce encysted or ovarian dropsy.

We may have idiopathic inflammation of the ovaries excited independent of any similar condition of the uterus; and I believe the former case to have been one of this character. In all such cases the ligaments of the uterus on the affected side are greatly engorged with blood, as in inflammation in other parts of the body. This evidently indicates an antiphlogistic line of treatment; but young females, generally speaking, cannot stand any great loss of blood; it ought to be taken in small quantities, and at different times. In the treatment of the case I have related, I found the ioduret of iron a valuable remedy, and I have repeatedly had opportunities of using it in cases of emansio et suppressio mensium with great advantage; but it is proper to state, in the above case, both the hydriodate of potash and the tincture of iodine were extensively given.

CASE II.—*Sarcoma of the Ovarium.*

The second case is one of sarcoma of the left ovarium, which occurred in a lady, aged 26 years. She was the mother of one child, and lost her husband about the time of its birth. She was a woman of dark complexion, of bilious temperament, and hypochondriacal. About two years and a half subsequent to his death, she was observed to decline in health. I was first requested to visit her professionally in September 1833. At that time she was suffering under violent pain of the left side, extending over the uterine region; the menstrual discharge had been irregular and painful; there was considerable fever, with sickness; and the bowels were costive. From an antiphlogistic line of treatment she recovered her usual state of health, and continued so till November 1835. At that time I was again consulted, in consequence of a relapse into her former complaint, but not in so acute a form. The lower part of the abdomen was considerably enlarged, and occupied by a large tumor; the bowels were very costive, and there existed symptoms of hypochondriasis to a fearful extent. She suffered from fluor albus, and the catamenial discharge had not been in efficient quantity. On examination, the body was found to be generally emaciated, and the abdominal cavity occupied by a large tumor: by a more careful observation, the enlargement was evidently that of the ovarium; it had already increased to a very considerable size, it was very irregular on its surface, and very solid to the touch. A few weeks after I was first called in, the symptoms of peritoneal

inflammation became very acute, and this was soon attended with a liberal effusion of serum. The tumor continued to enlarge very rapidly, her health proportionally declining till the following April, when the breathing became very difficult from the great distention of the abdominal parietes. The abdomen at that time contained several pints of fluid in addition to the increased size of the solid tumor. It then became necessary, for temporary relief, to perform the operation of paracentesis abdominis. The relief from the operation was of very short duration, the solid enlargement increased more rapidly, and effusion in the peritoneal cavity again took place, but not in any considerable quantity. Her health kept gradually declining, while the disease progressed till the following May, when she expired completely exhausted.

I made the post-mortem examination sixteen hours after death. The body externally presented great attenuation; the parietes of the abdomen were remarkably thin, from the severe distention which they had undergone. On opening the cavity of the abdomen, the peritoneum was found much thickened with very extensive adhesions to the solid tumor, which occupied the hypogastric right and left iliac, left lumbar, umbilical, and also a small portion of the right hypochondriac regions. On its anterior surface there existed two large abscesses in its walls. It was lobulated, presenting several small vesiculæ externally. On raising it, there appeared three large lobes, each of which presented several smaller ones. The posterior lobe was occupied by a large sac, which contained upwards of two quarts of thick oily fluid; the interior of this sac was very irregular, thickly coated with a soft substance like the brain, and the walls of this lobe, in several places, partook of the same character. The left or smaller lobe was also occupied by a sac containing upwards of a pint of similar fluid. The anterior and larger lobe was of a more solid character; this at different places was occupied by pellucid vesicles, some containing a drachm of fluid, others more, others less; but it consisted principally of a dark brown substance, very soft in some places, having much the appearance of a brain that had run on to putrefaction. The ligamentum latum on the affected side was highly vascular, and the arteriæ uterinæ et spermaticæ were much larger than in a normal state. The body of the uterus was not half its natural size, and from the pressure of the tumor its cavity was nearly obliterated; and on the right side there scarcely remained a vestige of the ovarium. The bladder was much contracted, and contained about two ounces of urine. The whole of the bowels (with the exception of the rectum) were compressed into the epigastric and hypochondriac regions. There had existed severe inflammation of these viscera, which had caused them to be glued together with organized lymph. The other organs were in a healthy state.

Remarks.—This disease commenced with active inflammation of the left ovarium, which, from the peculiar state of the constitution of the patient, laid the foundation of the malady which terminated her existence. I have no doubt the disease continued in an insidious manner to develop itself from the time of the first attack, although there was no palpable enlargement of the ovarium to be felt. The patient's mental suffering, from the loss of her husband, and having been left in thrifty circumstances, were highly favourable to the advancement of disease. It is reasonable to presume, the whole of the proper structure of the body of the ovarium was involved in the inflammatory action; and being compounded as it is of vascular and cellular lobules gorged with a large quantity of fluid, will explain in some manner the tendency this organ has to the formation of heterologous masses of this kind. The nature of enlargements of the ovarium is generally very obscure: although, I believe, more frequently ovarian tumors consist of steatomatous deposits, yet their composition is subject to various changes and modifications. Diseases of the ovaria much influence the function of the uterus, but in various ways, as at one period of the disease the menstrual discharge may be in superabundant quantities, and at irregular times; while at another stage of the disease it may be altogether absent, or small in quantity, and attended with pain.

In the treatment of diseases of the ovaria, medicines seem to possess but little or no influence; in this case, iodine and its various preparations were given in

large quantities, and continued for some time without any good effect; subsequently the system was brought under the influence of mercury, but with no better advantage. I was surprised, on making the post-mortem examination, to find how easily the tumor might have been removed before the inflammatory symptoms came on, and which, no doubt, were excited by the rapid growth of the tumor. I believe the operation for extirpating the diseased mass would not only have been justifiable, but also very desirable; and if I had another case similar to this, where it was evident the disease would shortly terminate the patient's life, without any other hope but that of an operation, I should certainly recommend her to submit to it, and that at an early period of the attack, before any adhesion to the peritoneum had taken place from inflammation.

I believe, on the 25th of November, a few days after I had been first called in, when the enlargement did not much exceed the size of a child's head, it might have been removed safely and expeditiously, with some chance of success; but after the symptoms of peritoneal inflammation had once commenced, it would have been madness to have attempted an operation. The great objections to operations of this kind are, the danger of subsequent inflammation, the adherence of the tumor to the peritoneum, and the probability of the same kind of disease attacking some other part of the body; but almost the same objections may be raised against every operation for the removal of malignant diseases.

Case III.—*Ovarian Dropsy, attended with Pregnancy.*

The next case I have to relate is one of ovarian dropsy, which occurred in a married lady, aged 26 years, of a lively disposition, but very irritable; of a pale complexion, which had at times a dusky appearance. She is of middle stature, and very thin, and has had very delicate health ever since she left boarding-school. She had always been of a very costive habit of body, and obliged frequently to seek relief from aperient medicines; the stomach has always been extremely irritable, and would frequently eject her food as soon as taken, and at other times large quantities of bilious matter. In April 1834, she had a violent attack of inflammation of the liver; and although very actively treated at the commencement of the disease, she was a long time before she recovered her usual health. This happened about six weeks after her first confinement. The child was not nursed at the breast, owing to violent inflammation and ulceration of both nipples. About nine months after her confinement, and seven or eight months after the attack of hepatitis, she experienced a gradual increase in the size of her abdomen, which at first induced her to believe herself to be again pregnant; but owing to her not having the same symptoms as before, and the regular appearance of the menstrual discharge, induced her to ask the opinion of her friends, who made light of the matter, and insisted that she was pregnant. From this time several months elapsed, during which the body decreased in size, and she thought the enlargement considerably reduced. This, however, did not last long; the belly soon began to increase more rapidly than ever, with pain and uneasiness of the left side, the menses were more frequent and in much greater abundance than usual, which greatly affected the strength and spirits of the fair sufferer. From these circumstances I was consulted in February 1836. At that time the abdomen appeared very large, while the general appearance of the body was very spare. The bowels were costive, the urine scanty, depositing an abundance of lateritious sediment. There existed considerable pain around the lower part of the loins, with a fixed pain in the left side near the scrobiculis cordis. There had existed great pain of the abdomen, which rendered my patient unable to wear her accustomed clothes; still, however, her health had not been so bad as to prevent her attending to her usual avocations. On examination I was much surprised to find the body greatly distended with fluid, which seemed to occupy every part of the abdominal cavity; pain was experienced on pressure over both the iliac regions, also over the right hypochondrium and scrobiculis cordis. On taking exercise, or using any exertion, great uneasiness and difficulty of breathing were experienced. The pulse was regular, about 76 in the minute; and the centre of the tongue was covered with a brown-coloured fur. At times she complained of vertigo, and was subject to sick or bilious headaches. Latterly her

nights had been restless, and she was obliged to lay with her head elevated. She was treated medicinally with the various remedies usually employed in such cases, with but little or no advantage, till the following August, when she determined to resort to Cheltenham, as on a former occasion she had experienced relief from the chalybeate waters. However, she returned home after some weeks, much in the same state, as far as the disease was concerned, but her general health was improved. The disease kept gradually increasing, notwithstanding the various local and general remedies employed, till February 13th, 1837, when, from the great distention of the belly, difficulty of breathing, and repeated attacks of spasmodic pain, it became necessary to relieve the patient by the operation of paracentesis abdominis, when there were evacuated twenty-six pints of a thick ropy mucilaginous fluid. Subsequently to the operation, the same train of remedies were employed, the action of the skin became greatly increased, and the size of the abdomen kept diminishing. On examination, the right ovarium and the fundus of the uterus were distinctly to be felt, the former of which appeared very painful on pressure, and the latter about the size of a large powder-flask. The breasts became painful soon after the operation, the areolæ more dark in colour, and the nipples very sensitive and protuberant. The patient now stated that she had not been regular for some months previous, and that at times she felt something beating in the lower part of her belly like a pulse. However, on a careful manual examination, I could not satisfy myself that she was pregnant. For some time after this, my patient's general health continued to improve, but the abdomen kept again gradually increasing in size. Owing to the great quantity of medicine which she had previously taken, she determined to allow nature to take her course.

On March the 6th my services were again requested, the signs of pregnancy being very unequivocal. I found her general appearance improved; but her size was very considerable, and of an unwieldly appearance. On examination, the lower part of the abdomen was occupied by the impregnated uterus, which had risen above the brim of the pelvis, and pressed towards the right side: the movements of the fœtus were very distinct: the upper and surrounding parts of the abdomen were greatly distended with fluid. However, as the patient did not suffer any severe pain, or other symptoms demanding interference, I recommended her to wait the result of her accouchement. For six weeks previous to this event, she was greatly troubled with a small miliary eruption on the abdomen, which, when she was warm, produced great irritation.

On July 11th she was safely delivered of a healthy female child. The labour was lingering and severe: the placenta was expelled naturally, and every thing appeared going on well till the following evening, when the nurse observed something bearing down, and on my visit named the circumstance to me; and also, that there existed a frequent and almost irresistible inclination to micturate. The after-pains were urgent, and attended with slight symptoms of pyrexia. I thought, from the quantity of fluid pressing upon the fundus of the uterus, it had become forced from its natural position; and, on examination, I found it in a complete state of prolapsion. I carefully reduced the uterus by means of a soft sponge smeared over with hog's lard, but found considerable difficulty in retaining it in its proper position. I gave the patient an opiate to quiet the system and allay irritation, and left her for the night.

On my visit the following morning, July 13th, I found that my patient had passed a restless night, and suffered much from after-pains, with constant sickness, the stomach rejecting every thing as soon as taken. The uterus was again prolapsed to a greater extent than before; the lochia scanty and pale; urine small in quantity, mixed with mucus; the tongue covered with a white fur; the pulse was increased in frequency to 96, and sharp. The patient complained of a tightness round the waist, and a constant pain round the lower part of the loins. After several attempts, I succeeded in reducing the uterus as before, and retained it in its proper situation by means of a large sponge pessary.

Anodyne and saline medicines were given, and an aperient enema prescribed.

On the following day the symptoms of pyrexia were less, the pain had abated, and the stomach had retained some milk. The pessary was forced down to the os externum, and the lochia had increased in quantity; the abdomen appeared to get larger and more tense; the child had been put to the breast several times, but the secretion of milk was scanty. The pessary was changed, and the remedies were persevered in, viz., calomel, squills, digitalis, and salines, till the 16th, five days after the accouchement, when the uterus became forced into the vagina, which condition was attended with urgent sickness. The abdomen continued daily to increase in size, and its parietes were extremely distended. The nights were passed without sleep, the breathing became harassed with a cough and expectoration of large quantities of thick mucus, and the patient was unable to move herself in bed. It therefore became necessary to perform the second operation of paracentesis abdominis on the 21st of July, ten days after delivery. Immediately subsequent to the operation the patient experienced considerable relief; the uterus retained its proper position without the aid of a pessary; there were no symptoms of fever; the skin became moistened by a profuse perspiration, and the bowels freely relieved. She refused to take medicines in consequence of the great irritability of the stomach, and every thing appeared going on well till the 26th of July, five days after the operation. During the evening she was taken with a shaking fit, which was followed by sickness and violent symptoms of pyrexia. On examination there was general pain over the whole abdomen, particularly over the liver and stomach, and also over the left iliac region, which was occupied by a sac containing about two quarts of fluid, and which was easily moveable. Quantities of bilious matter had been repeatedly vomited during the night, and the stomach refused to retain either fluids or solids. The patient complained of violent pricking pains within the whole abdominal cavity, particularly those portions which were occupied by the distended sac, liver, stomach, and spleen. The pulse was frequent, and small in volume, and the tongue was covered with a buff-coloured fur. The bowels were costive, and the urine scanty.

Sumat. haust. sal. in statu effervescentiæ 4ta quâque horâ.

℞ Hydr. Chloridi, gr. iij.; Extr. Opii, gr. viij.* ft. bol. h. s. sumend.

27th.—Has passed a restless night; the abdomen very painful on pressure; constant sickness; has retained nothing but a little milk on the stomach since last visit. The pulse 120, and very feeble; the tongue covered with a dark brown fur; the skin very hot and dry. The bowels have been moved once; the other symptoms as before.

Perstent remedia salina.—Fovus calidus abdomini applicetur.

℞ Hydr. Chloridi, gr. iss.; Pulv. Opii, gr. ss. ft. pil. 4ta quâque horâ capiat.

28th.—Much the same.

30th.—Much worse this morning; has had no sleep during the night; lies with the legs drawn up, and complains of the weight of the bed-clothes touching her body, although very lightly clothed. The bowels have been repeatedly acted on, and the motions have the appearance of thick green paint, and are extremely offensive; the abdomen has greatly increased in size; the pulse rapid, and very feeble; the fur covering the tongue is of a chocolate colour. The mouth is not affected by the calomel, and the expectoration of thick mucus continues, which amounts to about a pint in twelve hours.

Appl. Hirudines x. abdomini.—Enema simplex injiciatur.—Repet. alia.

31st.—Has had about two hours' sleep after three o'clock this morning, but was very restless and delirious the fore part of the night. The belly is not so painful on pressure, but she has been frequently harassed with sickness; she is extremely low this morning, and can scarcely answer questions.

Perstent omnia.

Aug. 1st and 2d.—Has passed bad nights, and in no respects better.

Pergat.

* So in the MS.; but we presume the "Extr. Opii, gr. viij." to be a mistake.—ED. GAZ.

3d.—Slight ptyalism; abdomen considerably distended, but not so painful on pressure; the excretions are unnatural, and very offensive; has perspired during the night; the expectoration continues in great abundance, with a slight cough.

Omit. pil.—Repetantur alia.

4th.—The bowels have been acted on seven or eight times since last visit; the ptyalism has greatly increased, and the salivary glands are swollen and painful. She complains of great pain and oppression in the chest, under the centre of the sternum, and has been harassed several times with sickness.

℞ Mist. Cretæ c. f. ℥x.; Guttæ Nigræ, ♏iv. M. ft. haust. post sedes liquidas sumendus.

℞ Tr. Opii, ♏lx.; Tr. Catechu, f. ℥iv.; Dec. Amyli, f. ℥iv. ft. enema statim injiciendum.

Gargarisma Sodæ Biboratis pro ore sæpe utendum.

5th.—Has passed a better night, but complains of pain in the mouth and jaws; the bowels have not been moved since last visit; sickness frequent; the tongue and mouth are covered with a thick white fur; expectorates large quantities of saliva, mixed with a thick-purulent secretion from the bronchia. The abdomen continues of very large size, but is not so painful on pressure; the urine continues small in quantity, and very high coloured.

℞ Sodæ Bicarb. gr. xv.; Aquæ, f. ℥x.; Sp. Æth. Nit. ♏xxx.; Sp. Ammon. Aromat. ♏xx. M. ft. haust. cum pulvere sequente, in statu effervescentiæ, sexta quâque horâ, sumendus.

℞ P. Acidi Tart. gr. x. fiat pulvis.

℞ Hydr. Chloridi, gr. ij.; Extr. Opii, gr. iij. ft. bol. h. s. sumend.

[From this time till the 19th little change occurred; some improvement was noticed on that day, after which the reports proceed.]

21st.—She continues to improve; passes better nights; and is refreshed from her sleep. The difficulty of deglutition is nearly subsided, and she feels a desire for food. The abdomen still continues a great size, and is painful on pressure; the bowels are acted on three or four times in the twenty-four hours, and the evacuations are more natural. The pain of the chest and the difficulty of breathing have entirely disappeared; and, in a word, she has improved in every respect.

From this time my patient became convalescent, and by careful nursing was able to sit up a short time daily. I frequently examined the abdomen, and found it keep gradually decreasing in size, as the health of the fair sufferer improved. The principal thing which now demanded attention was the state of the secerning organs. The bowels were kept regularly open; the kidneys acted more freely than they had done for some time; and the skin was frequently covered with profuse perspiration. In the beginning of September, as soon as she was able to be removed for a change of air, she paid a visit to some relations in Leicestershire, where she remained a fortnight. On her return home, I was truly astonished to find so great an improvement. The abdomen was quite reduced in size, her appetite had improved, and she had gained her strength surprisingly; however, she informed me that she frequently experienced darting pains in the left groin, and, if the bowels were confined, a general pricking pain within the abdominal cavity, particularly its lower part.

On the 11th day of October I made a manual examination for the purpose of ascertaining whether the whole of the fluid had been removed by absorption; and, to my gratification, I could not find a vestige of the large tumor which previously occupied the left iliac and hypogastric regions. The abdomen appeared rather fuller at its lower part than natural, but I could not detect any undulation on percussion.

August 1st, 1838.—I have frequently seen this patient, but she has had no return of the ovarian disease.

Remarks—In offering any observations on the foregoing case, it will be necessary to call to mind the peculiar investments of the ovaria. They are covered externally with peritoneum, which is derived from the fundus and body of the uterus posteriorly, and from the ligamentum latum anteriorly. Within this we

find them inclosed in another membrane, the tunica albuginea: in a healthy state, these two membranes are intimately connected with each other. On cutting through the latter membrane, we come to the body of the ovarium itself.

When we take this view of the organ which frequently is the seat of dropsy, it is not surprising that we should most frequently have it encysted; still, however, this will be influenced by the tissues involved in, and forming the seat of, the disease. For there is every reason to believe that effusion may take place between the peritoneal investment and the tunica albuginea, altogether external to the proper substance of the ovarium. In this latter case we should expect to find the fluid contained in one sac; while if the ovarium itself become the seat of the disease, it would necessarily be contained in more than one sac.

There are several reasons which induce me to believe this case to have been a simple one of effusion of serum between the coverings proper to the ovarium. Firstly, because the fluid was contained in one sac, which was completely evacuated by the operation of tapping, and that at two different times. Secondly, from the uniformity of its circumference. Thirdly, if the body of the left ovarium had been involved in the disease, the right would have sympathized with it, and not have performed its proper function sufficiently for impregnation to have taken place. And fourthly, it seldom, if ever, happens, when there exists a disease of this character affecting the proper structure of the ovarium, that a cure is performed. But as far as the treatment of ovarian dropsy is concerned, it probably matters little as to the seat of the disease; medicines appeared in this, as in all similar cases, I have observed, to produce very little or no direct action on the diseased part. I believe the cure of this case to have been effected by severe inflammation of the sac containing the fluid, and the consequent absorption of the latter. There had existed for some short time previous to delivery symptoms which threatened a general and severe attack of inflammation of the whole abdominal cavity. I have no doubt the action of the proto-chloride of mercury was very beneficial, and greatly assisted the curative process: it improved all the secretions, particularly those of the liver and kidneys. The cough and other distressing symptoms of the lungs were only symptomatic, and caused by the great distension of the abdominal parietes. We should not have expected impregnation to have taken place with so great a disturbance of the internal genitals; and it is more surprising that abortion did not take place after the first tapping. It was not till after the operation I was aware of my patient being pregnant, as there had never been other symptoms of it than the absence of the menses, which had previously been very irregular. Almost immediately subsequent to the operation the signs of pregnancy became very evident; and notwithstanding the rapid manner the fluid again collected, I believe the full period of gestation to have been accomplished. The uterus never ascended much above the brim of the pelvis, and was compressed in a small compass, and to the right side. It will readily be seen that in the treatment of the above case I had only one object in view, which was not to interfere with the efforts nature herself made, but to assist them, by giving such remedies as appeared most consistent with that purpose.

After delivery the abdomen rapidly increased in magnitude, and it became impossible to confine the uterus in its proper position, but the operation immediately obviated this distress; and since then there has been no further symptoms of prolapsion of the uterus.

I am, sir, your very obedient servant,
William Robbs, M.R.C.S.

Grantham, August 1st, 1838.

SUBNITRATE OF BISMUTH IN GASTRALGIA.*

This metallic salt has often been very indiscriminately employed in gastric affections, and has therefore, as might be expected, frequently disappointed the expectations of medical men.

* Med. Chir. Rev.

The disease, in which it is especially useful, is idiopathic gastralgia, unconnected with inflammatory action, or with any organic lesion of the stomach.

The following cases may serve to direct the physician in his employment of this remedy.

Case 1. A literary man, thirty-two years of age, of a weak delicate constitution, and subject to hæmoptysis, was seized in the month of February with a general exhaustion and powerless, complete loss of appetite, nausea, and most uneasy distention of the epigastrium. The bowels were constipated; there were frequent alternate chills and flushings of heat over the body; and the sleep was generally restless and disturbed.

Four grains of the subnitrate of bismuth, night and morning, were prescribed. The dose was quickly increased to upwards of a scruple in twenty-four hours. No alleviation, however, of the gastric symptoms was obtained. The sulphate of quinine was, therefore, substituted, and the diet was made more generous and nourishing. An amendment rapidly followed, and in the course of a short time the patient was restored to health.

(There is surely nothing remarkable in these details. The case was clearly one of common dyspepsia, and any of the tonic vegetable bitters would doubtless have benefited the symptoms. There is no mention made of gastralgia existing at any time.—*Rev.*

Case 2. A workman had been suffering for five or six months from frequently-recurring attacks of cardialgia, which had resisted the employment of a multitude of remedies. The epigastrium was tender upon pressure; and even upon any sharp succussion of the body, as during sneezing, coughing, and so forth, the patient was often seized with a severe burning crampy pain in the region of the stomach. It was found, however, that friction, continued for some time, on this part rather abated than aggravated the uneasiness. The chief distress was experienced after taking food; for then the gastric cramps came on almost immediately, and were accompanied with a sense of burning, and of extreme distention.

This state of suffering continued for about ten or fifteen minutes; but was always renewed upon swallowing either solids or fluids. The case was regarded as one of severe gastralgia. All food was debarred, and the patient was enjoined to quench his thirst by sucking small pieces of ice. The use of the subnitrate of bismuth was also commenced, and continued for several days; but the stomach pains seemed rather to increase than to abate under this treatment. Warm bathing and minute doses of opiates were substituted, and under this regimen the attacks of pain were gradually suspended.

Remarks. In the preceding case, the subnitrate seemed to act as a direct irritant, and to increase the very symptom for the relief of which it was administered.

Indeed this salt appears to be not so well suited for those cases in which there is an extreme sensibility of the stomach, as when this viscus is subject to attacks of irregular crampy convulsion.

Whenever the paroxysms of gastralgia become excessively acute, it is necessary to have recourse to opium. The subnitrate of bismuth is most serviceable when the gastralgia is chiefly of a spasmodic character, and the pain is not the most prominent, but one only of the secondary or super-added symptoms.

Case 3. Madame B., forty-two years of age, whose nervous system had suffered much from severe chagrin and distress, had experienced four years ago a serious illness, the chief symptoms of which were a partial paraplegia, numbness and intermittent pains in the limbs, and a constant (aggravated however at intervals) state of delirious confusion of mind. Occasionally the patient recovered all her mental tranquillity and intelligence for a short time; but this state was soon succeeded by one of bewilderment and raving.

All these unpleasant symptoms were removed under the use of musk, camphor, and quinine.

A few months ago, Mad. B., after meeting with a troublesome wound, was seized with a shivering fit, accompanied with cramps in the limbs, excitation of the cerebrum, and with a most acute constrictive pain in the epigastric region.

M. Recamier was called into consultation. He quite agreed with the physician in attendance, that there was no organic disease existing, and attributed all the symptoms to a nervous disorder of the stomach. Mild antispasmodics, conjoined with the subnitrate of bismuth, were administered; and by persevering in the use of these remedies for a few days, the patient was entirely relieved from all her sufferings.

Before concluding these remarks, we may state that in several cases we have observed excellent effects from a combination of opium with the subnitrate of bismuth—the dose of each varying according to the predominance of nervous pain, or of muscular cramp.

In some instances, too, the quinine may be very advantageously associated with the metallic salt.—*Bulletin General de Therapeutique.*

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ON THE THERAPEUTIC USES OF STRYCHNINE.

The following observations are from the pen of M. Bally, now one of the physicians (formerly of the Hôtel Dieu, where his clinique used to be attended by a large number of students) of La Charité Hospital, and will therefore be received with deference.

Strychnine is an alkaloid, which is obtained from the *strychnos nux vomica*, and the *strychnos santi ignatii*—both of which belong to the natural order of the *apocyneæ*. The latter of these plants is found to contain three times as much of the genuine alkaloid as the former; another alkaloid, however, the *brucine*, exists in larger quantity in the nux vomica than in the strychnos sancti ignatii.

M. Magendie had discovered, by the results of his experiments, that strychnine has a special or specific action on the spinal marrow. Such being the case, it was reasonable to predict that the use of it would be attended with numerous difficulties in all cases of cerebral hemorrhage, and consequently in those forms of paralysis, which have their origin in such a cause. M. Bally speedily found the truth of this remark in practice.

Although the palsied muscles were affected with twitchings, and, as it were, electrical movements, no permanent advantage was ever obtained in such cases; and in not a few instances the cephalic symptoms were decidedly aggravated. Vertigo, noises in the ears, sleeplessness, and suffusion of the features—all indicated a manifest threatening of further mischief.

But such were not the effects in those palsies, which were dependent upon uncomplicated lesions of the spinal marrow. In an immense number of such cases the benefit, derived from the use of the strychnine, was decided and permanent.

Those paraplegiæ, whether partial or complete, which are not dependent upon a deep-seated organic lesion—such as the actual separation of the nervous bundles of the medulla in consequence of *ramollissement*, a compression from a displacement of any of the vertebræ, or from the presence of any foreign body in the spinal canal, &c.—derive the most positive relief from the use of the strychnine.

Action of the Strychnine. We have already alluded to the marked influence of this most potent drug in determining a fulness of the cephalic vessels. It is of the greatest importance to attend to this circumstance, as we are satisfied from the results of an extended experience that its use is always attended with much risk in all diseases of the cerebrum.

Some practitioners have recommended the employment (internal) of strychnine in cases of amaurosis. M. Bally's experience does not confirm the justness of this praise. The external or endermic use of the alkaloid is more frequently successful in paralytic affections of the eye. As a matter of course, we cannot expect any advantage when the amaurosis is the result of any serious lesion of the retina, optic nerve, &c. Strychnine does not seem to exert any marked effect on the organs of digestion: there may be a certain degree of excitation follow its administration, but this, along with an intense bitter taste in the throat, is perhaps the only one.

Perhaps this is to be attributed to the very rapid absorption of the strychnine, and to the circumstance too of its action being altogether *specific* or *elective*.

If it sometimes acts on the urinary bladder, so as to remove paralytic weakness of this viscus, it is not by a direct, but by a *reflected* influence. The spinal marrow is in the first place excited, and this excitation is transmitted to the lumber and sacral plexuses, and thence to the nerves of the pelvic viscera.

In the same manner are the stimulant effects of strychnine on the nerves of the upper and lower extremities to be explained.

One of the most decided signs of the agency of strychnine in such cases is the occurrence of partial convulsions, or erampy twitchings of certain muscles. If its use be incautiously persevered in after the manifestation of these phenomena, a state of complete tetanus may be induced.

M. Bally says that, in some cases, the twitchings or jerkings of the muscles have, in his practice, been so powerful that he has been obliged to have the patient tied down upon the bed, as it required two attendants constantly to restrain the violence of the *boundings*.

Fortunately these effects do not usually continue long: they commence soon after the ingestion of the medicine. It is of importance to be aware of these facts.

Few physicians have ever administered the strychnine against saturnine or lead colic; but it has been used with efficacy against those partial palsies of the limbs, which not unfrequently follow this disease. M. Bally however has in numerous cases of the primary affection had recourse to this potent alkaloid, when purgatives have failed in mitigating the symptoms.

In such cases he has been in the habit of combining the strychnine with the muriate of morphia—a grain of the former and half a grain of the latter made into 16 pills—from two to four or six to be given daily.

As a generul rule for the internal administration of strychnine, we may state that we should commence with from a twentieth to a sixteenth part of a grain for a dose; and this quantity should not be increased more quickly than every six or seven days. It is rare that any patient can bear, even after a protracted use of the medicine, more than two or three grains in the course of twenty-four hours.—*Bulletin General de Therapeutique.*—Ibid.

RESULTS OF RE-VACCINATION IN SILESIA.

Dr. Aggens practised re-vaccination on 962 persons, during the year 1836. The operation succeeded perfectly in 822 of these cases; in 68, the pustules did not exhibit a mature or complete development; and in the remaining 72, no effect whatever was produced by the punctures.

In many cases, the regular and characteristic vaccine pustule made its appearance as early as the third, and had acquired its full size by the fifth or sixth day. In general, the author remarked a more decided reaction in the lymphatic system, than usually happens after a first vaccination. Often did the patient, in the course of two or three hours after the operation, begin to experience a smarting sensation along the arm and in the armpit, of the affected side. During the period of suppuration, the arm not unfrequently swelled considerably, and the system became somewhat feverish. But the pustules resulting from re-vaccination never exhibited *cette belle coloration perlée* of those produced by the first operation: they were of a greyish hue. On the whole too, their progress was decidedly more rapid, more especially in their last stage, or that of drying and desquamation. In some cases, in which no regular or characteristic pustules were formed, the punctures became nevertheless surrounded with an areola of inflammatory redness.—*Pfaffs Mitheilungen.*—Ibid.

RESULTS OF RE-VACCINATION IN THE PRUSSIAN ARMY, DURING 1836.

The entire number of persons re-vaccinated was 42,124. Of these, 32,635, exhibited the cicatrices of a former operation on their arms. In 6,543 persons, the cicatrices were unsatisfactory; and in 2,840 there were no traces at all of them.

In the re-vaccinations of this year, regular vaccine pustules or vesicles were formed in 18,136 instances; in 9,940, they were of irregular or imperfect development.

In 14,048 the operation failed in producing any effect; but on repeating it a second time, it took effect in 1,569 cases, and again failed in 8,205 cases.

The number of pustules induced varied from one to thirty in different individuals.

Among all the persons re-vaccinated during this and the preceding one or two years, 14 only were attacked with any of the forms of the prevalent varioloid disease: there was not, however, a single example of genuine small-pox met with, although the epidemic existed in the country.

The lymph employed was very generally taken from the arms of young children; and lymph that had become dry was always avoided.*

On comparing the results of re-vaccination during 1836, with those of preceding years, the reporter states that he is led to the conclusion that the disposition or tendency to contract a new cow-pox, (in other words, to be affected by re-vaccination,) and consequently the liability to variola, seem to be increasing every year. Of 42,124 persons re-vaccinated in 1836, the operation succeeded perfectly in more than 18,000; whereas of 48,478 persons re-vaccinated in 1833, only 15,269 were affected; of 44,454 in 1834, only 16,579 were affected; and of 39,192 in 1835, only 15,315 were affected.—*Medicinishe Zeitung.*—Ibid.

OBSTINATE AGUE, COMPLICATED WITH ASCITES, &c.

CURED WITH LARGE DOSES OF THE CARBONATE OF IRON.

A youth, 14 years of age, had been in ailing health for several years, when Dr. Gimon was consulted. It appeared from his parent's statement that, when he was in his fifth year, he was attacked with a quotidian fever, which returned regularly every day for three months successively. It resisted every remedial means employed, and only ceased after an attack of severe diarrhœa.

In the course of the following Spring there was a return of the intermittent fever; and at this time it assumed a quartan type.

It would seem that the patient never fairly got rid of this most troublesome complaint for several successive years; and, as might be expected, his general health had in consequence suffered greatly from this protracted illness. When Dr. Gimon first saw him, he found him pale, weak, and dropsical; the spleen was enormously enlarged, projecting far beyond the edges of the ribs, and occupying nearly three-fourths of the abdominal cavity, which was partly filled with water; the limbs were œdematous; the urine was scanty; there was a most distressing dyspnœa, aggravated upon any motion or exertion, and the appetite and powers of digestion had long been weak and uncertain.

M. Gimon, attributing the dropsical and asthmatic symptoms to the enlarged state of the spleen, had recourse at once to the use of large doses of the sulphate of quinine, with the view of reducing this disease.

This treatment was persevered in for six weeks, without however any decidedly beneficial effects being obtained. Not only was the size of the spleen little, if at all, diminished, but even the return of the agueish paroxyms was not very sensibly arrested.

The doses which Dr. G. administered were immense—nearly a drachm a day! He alludes to the opinion of M. Bailly, that the stomach, in patients affected with enlargement of the spleen, will usually bear larger doses of medicines than in almost any other case.

The quinine being omitted, no further medication was resorted to for six or eight weeks; but then, the state of the invalid becoming more serious, Dr. Gimon was again consulted. He now recommended the use of the carbonate of

*Attention to these two particulars should be always paid in practising re-vaccination. The lymph should be taken from the arm of an infant, and it should be inserted before it has become dry. Our own experience had led us to the same conclusion, before we read this German communication.—(Rev.)

iron, along with a weak decoction of cinchona. The dose of the carbonate was rapidly increased from twelve grains to two drachms in the course of the twenty-four hours.

This treatment was persevered in for several months; and ultimately with the happy effect of completely removing all signs of disease; the size of the spleen had become remarkably reduced; the dropsical effusion had entirely disappeared, and the disposition to the returns of intermittent feverishness seemed to be quite overcome.

The cure was moreover permanent.

Case 2.—A countryman, 21 years of age, of a lymphatic constitution, had been affected with a quartan ague for upwards of three years, when he first consulted Dr. Gimon. His complexion was pale and yellowish; the features were puffed and bloated; the limbs were œdematous; the abdomen was swollen, especially over the region of the spleen; and his general health was frail and uncertain. For the preceding six months, the ague had returned regularly every third day: and during the intervening days, or those of apyrexia, the patient's strength was so feeble that he could not engage in any occupation. Although the tongue was red* and the epigastrium was rather tender on pressure, Dr. G. did not hesitate to have recourse to the use of the quinine—10 grains every six hours. This was continued for eight days; but the paroxysm of the disease were not arrested.

The carbonate of iron was now substituted—at first in small doses, which were rapidly increased, so that at length the patient took six drachms in 24 hours. For the first fortnight of this treatment, no very sensible amendment took place, the paroxysms of the fever returning as frequently and as severely as heretofore. After this time, however, the state of the patient began to improve, and the fever and other symptoms gradually subsided. In the course of three months, the enlargement of the abdomen had quite disappeared, and the health was completely re-established.

These two cases are fair examples of the good effects of steel in some obstinate and long-continued agues. It is not a new practice, as we find that it has been recommended at different times by several authors. The writer of the article *fievre*, in the Dictionnaire des Sciences Medicales, mentions a case of a quartan fever, of four years' standing, cured with the sulphate of iron, after it had resisted a host of previous medicines.

We have already said that the mere circumstance of redness of the tongue and uneasiness of the epigastrium need not preclude the administration of steel.—*Journal des Connoissances.*—Ibid.

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OBSERVATIONS ON EMMENAGOGUES, AND ON THE "AURA MENSTRUALIS."

Dr. Krieg commences a very ingenious paper on the above subject, by endeavouring to show that there is an *aura menstrualis*, or exhalation from the catamenial discharge of one female, which is capable of exerting a very decided influence on the uterine system of another female, so as to induce the menses in her, if they happen to be suppressed. He assures us that, in many cases of amenorrhœa, he has succeeded in obtaining a cure by simply recommending the patient to sleep with any other female, who may happen to be *unwell.*

He gives the particulars of some of these cases; but it is almost unnecessary to detail them.

[The hint appears to us (Rev.) to be worthy of notice, and deserves to be acted upon.]

Dr. Krieg, not satisfied with recommending the above simple expedient, suggests the trial in some cases of a direct inoculation with menstrual blood, by means of a sponge moistened with it and introduced into the vagina of the patient.

* M. Bailly has very properly remarked that the mere redness of the tongue, even although accompanied with a certain uneasiness or tenderness of the epigastrium in many agueish cases, is not a sufficient contra-indication to the use of bark. Unless there is a febrile irritation of the system at the same time, we should not attribute these symptoms at once to a gastritic affection.

The remarkable resemblance between the smell of the *chenopodium olidum* and of the catamenial discharge has often suggested the employment of this plant in uterine affections; and from the multiplied testimony of numerous writers we cannot hesitate to recognize it as a potent emmenagogue.

About a century ago it was admitted under the name of *artiplex olida*, into the Pharmacopœias of London and of Edinburgh, in the form of a conserve or electuary. Dr. Kreig has recently tested the effects of the fresh juice, reduced to the state of soft extract, in several cases of amenorrhœa, and he assures us that it exerted very distinct emmenagogue powers.

In other cases, Dr. K. has found excellent effects from a combination of *secale cornutum*, *limatura ferri*, *and oleo saccharum juniperi.—Caspar's Wochenschrift.*—Ibid.

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The Medical Missionary Society in China. Address with Minutes of Proceedings. Canton, China, 1838.

We adverted to this address, and the benevolent scheme which it proposes, in our last number; and we now redeem the promise then made to place it on our pages. We are indebted for the copy before us, and some other kindred documentary matter, to the estimable President, and, we believe, originator of the society, Thomas R. Colledge, Esq.

In October, 1836, after mature deliberation, and encouraged by many whose views were in accordance with our own, a few suggestions relative to the subject of providing medical aid for the Chinese were drawn up, and published. The hope then cherished has been realised; the first public act—the organization of a new institution—has been completed. And it is in compliance with a resolution of the committee of management of this institution, that we have now once more the pleasure of explaining our object, and of inviting the co-operation of all those who wish to mitigate the sufferings of their fellow-men.

The object of this Society is, as stated in the resolutions passed at its formation, to encourage the practice of Medicine among the Chinese, to extend to them some of those benefits, which science, patient investigation, and the ever-kindling light of discovery, have conferred upon ourselves.

In the midst of many improvements, and surrounded by numerous social advantages, the Chinese are nevertheless deficient in medicine and surgery, and acknowledge this deficiency by their conduct, whenever they can avail themselves of the well-directed skill and the superior adroitness of foreigners. The love of ease and the hopes of health lead mankind to accept assistance, wherever they can find it, to forego their prejudices, and sometimes to make large sacrifices, even upon a very slender prospect of recovery. The Chinese, though exclusive in all their policy, form no exception to this rule, for they have come in crowds to the ophthalmic institutions, submitting to operations and medical treatment with unbounded confidence, and obtaining health and restoration, through the means of the physician, with every mark of the most unfeigned respect and thankfulness.

Our course, then, is clear; a road to usefulness is thus open before us, a great people stand in need of our assistance in this way, and are withal very glad to receive it. To restore health, to ease pain, or in any way to diminish the sum of human misery, forms an object worthy of the philanthropist. But in the prosecution of our views we look forward to far higher results than the mere relief of human suffering. We hope that our endeavours will tend to break

down the walls of prejudice and long cherished nationality of feeling, and to teach the Chinese, that those whom they affect to despise are both able and willing to become their benefactors. They shut the door against the teachers of the Gospel; they find our books often written in idioms which they cannot readily understand; and they have laid such restrictions upon commerce that it does not awaken amongst them that love of science, that spirit of invention, and that freedom of thought, which it uniformly excites and fosters, whenever it is allowed to take its own course without limit or interference. In the way of doing them good, our opportunities are few, but among these, that of practising medicine and surgery stands preëminent. Favorable results have hitherto followed it, and will still continue to do so. It is a department of benevolence peculiarly adapted to China. Ordinary modes of conveying information fail to attract the regard of the Chinese. Hence their groundless fears and suspicions of us continue unchanged. If a ray of light flash unexpectedly upon them, they view it, not as a pure beam from an uncorrupted source, but as an *ignis fatuus* calculated only to mislead. Could we dispel these fears, and make known to them the true character and desires of the civilized western nations, many are sanguine that a more friendly policy would be adopted towards us. And in the department of benevolence to which our attention is now turned, purity and disinterestedness of motive are more clearly evinced than in any other. They appear unmasked; they attract the gaze, and excite the admiration and gratitude of thousands.

"Heal the sick" is our motto,—constituting alike the injunction under which we act, and the object at which we aim, and which, with the blessing of God, we hope to accomplish, by means of scientific practice, in the exercise of an unbought and untiring kindness. We have called ours a Missionary Society, because we trust it will advance the cause of missions, and because we want men to fill our institutions, who to requisite skill and experience add the self-denial and the high moral qualities which are usually looked for in a missionary.

For the agents by whom we are to carry our object into execution, we must look to the Missionary Boards and Committees in Great Britain and the United States. They have it in their power to help us, and are best qualified to select men that are fitted to execute our designs. We do not engage to support such individuals, and therefore shall leave them free to cherish all the better feelings of an honorable independence. We offer them hospitals, with every other necessary and suitable accommodation, and means of effecting good. In these hospitals we require for the patients the same uniform and well considered attention, which are enjoyed in institutions of a similar kind at home. Men of eminent qualifications and tried character are indispensable for the successful prosecution of the work. For after the Society has done all it can do, by way of preparation, its direct influence on the Chinese is to be exerted through the agents it employs: on them, therefore, the destinies of the Society are suspended. If they fail, it fails. Their success is its success. They are to give effect to the wishes of the Society and its friends. Too much care cannot be bestowed on their selection. Both in character and in practice they should be every way good men. The constitution of the Society has been framed so as to guard—as far as it is in its power to guard—this point.

By the employment of such an agency the way will be paved to a higher place in the confidence and esteem of the Chinese, which will tend to put our commerce and all our intercourse with this nation upon a more desirable footing, and to open avenues for the introduction of those sciences and that religion, to which we owe our greatness, by which we are enabled to act a useful part in this life, and which fit us for the enjoyment of a better life hereafter. And it will not be denied, that these form desiderata of no ordinary interest and importance.

There are other advantages, which, though they be of a subordinate kind, are not without their value. Among the first we would refer to the benefits, which are likely to result to medical science by cultivating it in China. Countries are not less characterized by the form and nature of the soil and its productions, than

they are by the prevalence of certain maladies and a partial or complete exemption from others. The contemplation of disease, as influenced by the position and height of a country, its inland or maritime location, and the general habits of the people, conducts the student to a most engaging range of medical philosophy, while it discloses many important lessons to assist him in the way of benefiting his fellow-creatures. The advantages derivable from such a contemplation have been acknowledged at all periods, and in all quarters. To secure these advantages, it is required, that a book should be kept in all the institutions connected with this Society, into which an entry will be made of all important cases, with a notice, not only of the disease and the treatment pursued, but also of the province, habits, and other circumstances bearing upon the history, of each individual. Such books will in time be curious and instructive documents, and such as will enable us to glance at the penetralia of domestic and social life in China, which we now can only read of, or view at a distance, from the very outskirts of the country.

It will not require much illustration to show, in the second place, that information will be obtained in this way of the highest value to the missionary and the man of commercial enterprise. The general state of feeling in this vast and thickly populated country, the partialities and prejudices of the people, can only be seen by us through a very questionable and imperfect medium. The wants and resources of a territory so diversified and extensive are only known to us by reports, which are not always consistent with each other. But by such an intercourse with the people, as these institutions will afford, the truth will be learned in some measure, and answers to many questions, which we are now interested to ask, will be obtained; for a sick man will often deal frankly with his physician, however he may be disposed to conceal facts, or garble his statements with any other person.

Another advantage will be the education of young Chinese in those branches of science that belong to medicine. Facts show that Chinese parents are not altogether blind to the desirableness of placing their sons in our hospitals, as three are already under tuition in the institution at Canto. Young men thus instructed will gradually be dispersed over the empire, travelling for pleasure, honour, or reward, and will dispense the benefits of a systematic acquaintance with the subject, wherever they go. The success of their measures will render them respectable, and of course will redound to the credit of those also from whom they have learned the art. Their patients will not only hear, but feel that the people from the west are good men. The effect of such influences will be silent, but powerful, for there is something irresistibly impressive in a benevolent action, especially when it appears to be exempt from the imputation of interested motives.

The Society recommends the study of the Chinese language, because to question a patient through an interpreter is a circuitous and often a very doubtful process. A knowledge of the language will open another door of inquiry, namely in relation to the substances used in Chinese Pharmacy, and to their peculiar modes of preparation. As the reciprocations of health and sickness are various in different countries, so Providence has displayed a corresponding variety in the distribution of remedies. This correspondence between the prevailing disorders of any country and the remedies which the hand of nature has provided, is often very striking, and will become more so as the subject is investigated. We may therefore look for a great many valuable additions to our dispensatories, while an extended acquaintance with disease under new modifications will help to enlarge and complete our system of nosology. With a small stock of Chinese phrases, great immediate good may be effected, but to accomplish extensive and permanent good, an acquaintance with their language, and with their treatises on the theory and practice of medicine, as prevailing in the country, is indispensable. This is requisite, also, to enable one to write works by which their erroneous systems may be revolutionized. A man's usefulness will be in proportion, *ceteris paribus*, to his knowledge of the language. If knowledge be indeed power, then is that of the language of China on the part of those who would benefit the Chinese emphatically so.

We have alluded to the revolutionizing of the erroneous systems of the Chinese. But little argument is needed to prove the urgent importance of effecting such a revolution. A few facts will suffice to show it. Authors of medical treatises, enjoying a high reputation and imperial patronage, are found to extol the efficacy of many secret remedies and vaunted specifics. And all, or almost all, adopt the common vagaries concerning the pulse—their infallible key to every ailment, and concerning the influence of the elements in causing and affecting disease. Persons in the highest ranks of society believe in astrology, and consult the almanac in order to select an auspicious day for applying to a physician, though that day may not come till their disease has advanced beyond the control of human skill. The Chinese admit their ignorance of medical science, especially of surgery and anatomy. An amusing and ridiculous compound of astrological dogmas and dissertations on the influence of the elements, like the 'Ethers and Elements' of Heraclitus, takes the place of the well-established principles of physiology and chemistry now received in the west.—As yet we are not aware that any correct knowledge regarding the circulation of the blood obtains in China. Observation, however, has taught them, that the frequency and force of the pulse are not the same in sickness and in health. Deducing from this circumstance unfounded notions on the subject of pulsation, a Chinese practitioner, on observing the character of the pulse in the last stages of disease, will hazard a prognosis of the number of hours the patient may have to live. In the indefinite use of the word 筋 by the Chinese, and of φλεψ by Pythagoras, we observe a remarkable coincidence. By both the same term is often employed to designate veins, arteries, nerves, and tendons.

It has been sometimes objected, that to attend to the diseases of men is not the proper business of a missionary. This objection may be shortly answered by a reference to the conduct of the Savior and his apostles, who, while they taught mankind things that concerned their eternal interests, were not indifferent to their bodily sufferings. What He was pleased to do by his Divine power, and what they did by miraculous endowments, no one can in these days pretend to effect. But we are commanded and encouraged to imitate them, by the use of such means as knowledge and the exercise of a genuine charity will furnish. The importance of education has long been admitted, and none regard its requisite expense as a perversion of sacred funds,—not that education can make the pagan a Christian, but because it is one of the best auxiliaries. Neither has it been considered a misapplication of money, or of the missionary's talent, to employ science as an instrument wherewith to sweep away the foundations of idolatrous systems,—not that science can convert a heathen, but that, by demonstrating to him the falsity of his religion, it may prepare the way for him to seek the truth. A similar rank and equal consideration are what we ask for the healing science and practice.

A peculiarity of the Medical Missionary Society in China is, that it addresses itself to the consideration of ALL. The man of science and the philanthropist, who look especially to immediate benefits, are here interested. And to the sympathies of those who, while they equally appreciate the desirableness of contributing in every feasible manner to the welfare of their species for time, contemplate with unspeakably more solicitude those interests which are eternal, it presents an irresistible—an overwhelming—claim. When we reflect upon the present state of surgery and medicine in China, the suffering that is experienced, the lives annually and needlessly lost, and advert to the time when similar ignorance was the misfortune of the nations of Europe; and when we consider the rational basis upon which science is now established, and our facilities for imparting it to others; the obligation upon enlightened nations becomes imperative, to improve the opportunity afforded, of imparting to others the incalculable benefits received from the application of chemistry and natural and inductive philosophy to the subject of health, in the investigation of the causes and phenomena of disease and the means of controlling it.

The world is a whole; and as the human race approximates to the perfection which it is destined to reach, the principle of union and fellow-feeling will become more and more influential. A Bacon, a Newton, or a Franklin, is not

to be monopolized. Such men belong not merely to the nation that gave them birth, but to the whole world. They were doubtless designed by Providence, to be blessings not merely to a single age or country, but to all successive ages, and to every land. Upon those who first enjoyed the boon, rests the obligation to extend universally their principles, which have revolutionised the philosophy and science of Europe, and which, whenever permitted free ingress, will produce similar results in China. Surely no accumulation of arguments is required to prove a case so clear. If the principle is admitted that our race is *one*, then the *remoteness* of the empire for which we plead cannot neutralize the obligation.

To facilitate co-operation in the observance of this obligation, agents are appointed in the principal cities of England and America. About $9,000 have been contributed in China and its vicinity within the last two years to this cause, but whilst friends here encourage the expectation of a continuance of their aid, the Society must look to the affluent of happier lands for its principal support.

When we survey the vastness of the field, the good to be effected, and when, reflecting upon the immense resources of the western hemisphere, we compare these with the small portion of wealth required to secure the desired object, we are confident that benevolence—disinterested like its author, and as expansive as the woes of man are extensive, will not withhold the means. A rare opportunity is here afforded to the philanthropist of doing good—of enjoying the felicity of imparting to others, without diminution to himself, some of his richest blessings. He is invited to unite in accomplishing a great, immediate, and positive good,—is encouraged by the hope of immediate success, to aid in uniting to the great family of nations this long severed and secluded branch, and in introducing among this people not only the healing art, but in its train the sciences, and all the blessings of Christianity. To the various missionary Boards whose coöperation is sought, we would respectfully say, imitate Him whose Gospel you desire to publish to every land. Like Him, regard not as beneath your notice the opening the eyes of the blind and the ears of the deaf, and the healing all manner of diseases. Until permitted to publish openly and without restraint the truths of the gospel, neglect not the opportunity afforded of freely practicing its *spirit*. Scatter to the utmost its fruits, until welcomed to to plant the tree that produces them—the "tree of life."

(*Signed*) T. R. Colledge.
Peter Parker.
E. C. Bridgman.

China, *April* 14*th*, 1838.

LIST OF OFFICERS OF THE MEDICAL MISSIONARY SOCIETY IN CHINA.

COMMITTEE OF MANAGEMENT.

President.—Thomas R. Colledge, Esq.

Vice-Presidents.—Rev. Peter Parker, M.D., William Jardine, Esq, Robert Inglis, Esq, Alexander Anderson, Esq, G. Tradescant Lay, Esq, Rev. E. C. Bridgman.

Recording Secretary.—John Robert Morrison, Esq.

Corresponding Secretary.—Charles William King, Esq.

Treasurer.—Joseph Archer, Esq.

Auditor of Accounts.—John C. Green, Esq.

Trustees.—Thomas Richardson Colledge, Esq, Joseph Archer, Esq, John Cleve Green, Esq.

Directors for Life.—Lancelot Dent, Esq, Robert Inglis, Esq, William Jardine, Esq, J. Matheson, Esq, Framjee Pestonjee, Esq, J. C. Whiteman, Esq.

Medical Missionary Society in China in Account Current with Joseph Archer, Treasurer.

Dr.	To Expenses of Hospital at Canton in 1836	$1733.70	
	do. do. do. 1837	1692.24	
			3425.94
	To Purchase of House for Hospital at Macao —		4742.25
	Balance—in hands of J. Archer, Treasurer,	$1159.25	
	do. do. Rev. Peter Parker, -	609.31	1768.56
		Spanish Dollars	9936.75

Cr.	By Amount of subscriptions and donations, namely—		
	to Ophthalmic Hospital, during the year 1836 —		$2243.00
	do. do. ,, ,, 1837 —		1252.25
	do. do. to 10th May 1838 —		1445.00
	to Medical Missionary Society during 1837 —		2801.50
	do. do. to 10th May 1838 —		2195.00
		Spanish Dollars	9936.75

E. E.

J. Archer, *Treasurer.*

Auditor, J. C. Green.

Canton, 10*th May*, 1838.

INTRODUCTORY LECTURES.

Address, introductory to a Course of Lectures on the Theory and Practice of Medicine. By N. R. Smith, M.D. (of Baltimore), Professor in Transylvania University. Pp. 24. 18mo. Lexington, 1838.

The True Value of Experience in Medicine; an Introductory Lecture, delivered at the Session of the Louisville Medical Institute for 1838–39. By Henry Miller, M.D., Professor of Obstetrics and Diseases of Women and Children. In the Louisville Medical Institute. Louisville, Ky. Pp. 21. 8vo.

Introductory Address delivered at the opening of the Session of the Medical College of Georgia, on the second Monday of November, 1838. By Joseph A. Eve, M.D., Professor of Therapeutics and Materia Medica. Augusta. Pp. 24. 8vo.

Jefferson Medical College. Professor Pattison's Introductory Lecture. 1838–9. Philadelphia. Pp. 19.

Thoughts on Medical Education in America; an Introductory Lecture, delivered in the Chapel of Morrison College, to the Medical Students of Transylvania University, on the 11*th November*, 1838. By Robert Peter, M.D., Professor of Chemistry and Pharmacy, in the Medical Department of Transylvania University. Lexington, 1838. Pp. 22. 18mo.

We give the titles of these introductory discourses in the order in which they were presented to us: but, it is not our intention to follow with an elaborate sifting of their contents and a comparison of their several merits. Still less are we inclined to make them a peg on which to hang a lecture of our own, and by implication to show how we could teach the teachers—a privilege this which every reviewer not only thinks himself to be in the possession of, but believes himself called upon to exercise. Waiving for ourselves, at any rate for the nonce, all such lofty pretensions, be it on this occasion our humble office to venture on a running commentary on some of the points which have arrested our attention in a perusal of the above introductories.

Dr. SMITH begins his address with the administration of a little condiment, or what that shrewd observer, Sam Slick, would term 'soft sawder,' to the trustees and faculty of the University of Transylvania, and 'the broad regions of the west.' This, like the compliments of the season, is well understood by both parties, and as an evidence of civility and good breeding ought not to be carped at. Then follows a eulogistic notice of his predecessor in the chair of the practice of medicine, the late Dr. Eberle, who, as a medical author, is ranked second only to one other person in this country. But is Dr. Smith accurate in the fact itself, or just to the memory of his predecessor, when he speaks of his, Dr. Eberle's, early progress to professional distinction. Is it not, on the contrary, well known, that Dr. E. was late in winning the honours of his profession, both as author and teacher; and in this, much of his real merit consists. At a time when other men's habits are fixed; when they yield either to their adverse destiny, as they are pleased to call it, or are lulled into slumber from acquired ease and station, and refuse to make any additional, certainly any unwonted exertion, Eberle pressed forward, threw off not, like Patrick Henry, the exuviæ of the clown, but perhaps something more adhesive and trammeling; and first, as critic and reviewer, then as teacher, and finally as author and teacher combined, achieved a reputation, which, though not so colossal as Doctor Smith would persuade us it was, others might well be proud of possessing.

We have strong doubts of the appropriateness of the connexion between a picture of the intellect of Dr. Eberle and "the attributes of mind" of Newton, Franklin, and Laplace, made by Dr. Smith. Much, however, must be conceded to the law of custom in these cases in which, as in the *Discours de Reception* of the French Academy, the new member thinks himself bound to say all he can of his predecessor; and failing to be supplied from his memory, he must e'en borrow from his imagination.

Professor Smith devotes the larger portion of his discourse to a succinct description of the objects and range of medicine, and of the honour and happiness acquired by him, who, in unveiling its mysteries, and applying its powers, relieves his fellow-men from much physical and moral ill and suffering. Brief allusion is made to the theories of distinguished teachers, and hopes are held out, by a reference to names, of a better system, the inductive or Baconian, by which the dynasty of "the theorists and school-founders" shall for ever be put an end to, and true philosophy be in the ascendant. Observation and industry are well inculcated by the lecturer, who, also, lays deserved stress on the possession and display of the finer moral qualities, by him who professes to heal the sick, and to soothe the perturbed and angry spirit; neither expecting nor seeking the applause of the world nor the pomp and circumstance of office and honours, for a reward.

Professor MILLER's choice of a subject for his introductory was good, and his manner of treating it instructive. It might have been more elaborate, without perhaps gaining in value, and more copious in illustrative reference, without adding to the force of the argument. The contrast between cumulative empiricism, which is often dignified with the name of medical experience, and the distinctive application of the past to the present, and to the probable future, is well described. "The first and most essential quality of valuable experience, which we shall mention, is, *that it grows out of an intelligent and descriminating observa-*

tion of the phenomena that are its objects. These phenomena are the product of the action of external agents on the human system, and the object of investigation is the discovery of the order of their sequence, or the assigning of a cause for each successive effect that may be developed." We have not space to introduce the lecturer's enlargement of this topic. Reference is made to the eager hunt after new remedies, and to the difficulty of predicting the precise operation of any one article, in the various kinds and grades of disease, to which it may be applied. Even of *blood-letting*, long and much as it has been used, can we yet speak, says Dr. Miller, of its precise value. Some of the difficulties, as causes of embarrassment in these observations, are pointed out.

The next quality of valuable experience in medicine is, "*that it be engrafted upon a thorough acquaintance with the demonstrative branches of the science.*" Anatomy and physiology, as the most important and fundamental of these, are designated, and their more immediate value and application shown.

"Another quality of really valuable experience in medicine is, *that its teachings be untinctured by theoretical prepossessions.*" In extending this proposition, Dr. Miller mentions the *vis medicatrix* of Cullen, and comments, for a longer space, on the *gastro-enterite* of Broussais. It may not be thought any great argument in its favour, but we confess that the notion of M. Broussais, that the existence of periodical gastro-enteritis accounts for the type of intermittent fever, seems to us as plausible as any other dogma or hypotheses current in the schools. That periodical paroxysms will show themselves in consequence, and as an effect, of chronic inflammation of the stomach by poisonous doses of arsenic, is a fact mentioned by writers on toxicology. But we must pass on to other points. This one cannot be illustrated by either affirmation or denial, without the addition, in either case, of a large number of pathological examples, and a long train of reasoning thence deduced.

Doctor Miller animadverts, very appropriately, on the silly boast of individual experience, to the neglect of, and in opposition to, the experience of other times and other men. "Probably, he who plumes himself most on his own experience, has not contributed a solitary new fact, although, in his ignorance of the labours of his predecessors, he may imagine that he has done wonders." The slowness of advance, and the almost apathy of the many who practice medicine, are next touched on, briefly but expressively, and, as we must needs believe, too truly. To observe and to record, patiently and accurately, and to deduce inferences divested of preconceived hypotheses and popular theories, are duties very distinctly inculcated in the discourse before us; in which, also, the author points out, as he believes, the true means of attaining this object. It is by hospital teaching:—and he continues, "the period is not far distant when a medical school, without such opportunities, will be regarded as a grave and learned mockery." We are not sure that the force of this opinion, sound and incontrovertible though it be, is increased by the obvious allusions to the deficiencies, in this respect, of a rival medical school, and the subsequent, though allowable, complacent mention by the speaker of "the unparalleled munificence of the Council of Louisville, in accordance with the noble public spirit and liberality of the citizens, calling into existence the Medical Institute of Louisville," coupled with a eulogy on the hospital in that city. What will our New England brethren say to the importance of clinical instruction in hospitals, which are in

such melancholy disproportioned fewness to their medical schools? We do not feel inclined to press the question on many of those who are now associated with Dr. Miller, as to where were their perceptions of the obvious, nay paramount necessity of hospitals for medical education, during a no inconsiderable term of years, in which they taught medicine in another school without such aid, and taught it too, not certainly in a tone of deprecation, or with any evidence of misgiving as to the propriety of the course they were pursuing. We are afraid that to most corporations, the well known line of Goldsmith on Burke, "too fond of the right to pursue the expedient," is applicable in an inverse sense, and that "the right" seldom stands much in the way of "the expedient."

But Dr. Miller overrates the importance of hospitals as a *cause* of the reform in medicine, and of a better system of medical experience. They are one of the means only. For ages, hospitals had been resorted to in the European capitals by the student, for the purpose of acquiring clinical knowledge; and young men "walked the hospital" as regularly during the gossiping and nursery times of a Fothergill and a Lettsom, as they now do in the company of a Lawrence, a Stokes, and a Williams—to say nothing of the distinguished men on the continent. The reforms, to our apprehension, have been carried into, and not sprung from the hospitals, which are even now, especially in the United States, still behind the clear indications and requirements of medical science, as taught and understood outside their walls.

Doctor Eve devotes the greater part of his Discourse to the inculcation of the Baconian, or inductive method of reasoning in medicine. He begins by a reference to "the vast improvements which have been made in the science during the present century," whilst he admits "its extreme distance still from ultimate perfection." He thinks that if all the requisites could be combined in the unerring skill of the physician, and the intelligence and good faith of the patients and their friends, by which the shafts of death could be repelled with certainty, man would not have legitimate cause to boast. "It is far better for mankind," he alleges, and no doubt correctly, "that Death should continue to number his victims from the earliest to the latest period of existence, than that Earth should become crowded with a multitude of time-worn and decrepit beings, to whom life had become a burden, in whose bosoms the frost had chilled every friendly emotion, and frozen up every avenue to pleasure, and whose only hope and wish could be to die."

The influence and diffusion of the Baconian method of observation and of teaching, and its successful application to medicine are recorded by Dr. Eve. Chemistry was the first to feel the ameliorating influence of the principles taught by the philosophic Lord Chancellor. After a eulogy on Newton, Dr. Eve adds, that the same language is applicable to Bichat in anatomical science. To some this opinion may seem to be extravagant. We confess that we are not of the number of those who are inclined so to regard it.

The aid furnished by the rigorous employment of the sense of hearing in auscultation and percussion, is set forth by the lecturer, who afterwards points out the misleading influence of what Cullen called false facts, and the necessity "to commence aright." The following is a sensible remark, and we should like to hear of its purport being more regularly and earnestly inculcated on

students by teachers in general. The lecturer had just been premising the endeavours of himself and his colleagues to impart the largest amount of information to the class. "But while this will demand our most arduous efforts, it will require a corresponding degree of attention and study on your part to render our labours profitable to you. Were we to devote our whole time to instruction, and labour incessantly day and night for your improvement; had we all human knowledge; were we masters of every science and of every art; had we the eloquence of Demosthenes; could we lecture to you in language more mellifluous, in strains more sweet and enchanting than angels use; all would avail nothing without your most diligent *attention here*, and studious *application* to books at *home;* we might entertain you for the time, but no lasting impression would be made on your minds, you would return unimproved, unprofited, by your sojourn among us.

"The strong desire I feel for your improvement," continues Dr. Eve, "prompts me to urge upon you, with all possible emphasis, the indispensable importance of employing all your time, with the greatest assiduity and industry to acquire and retain knowledge. Every minute lost *now* is lost *forever*. Were you to live a hundred years, you could not redeem one moment of misspent time. Every hour has its occupation, and you cannot crowd into it the concerns of another."

The lecture is concluded in an appropriate manner, by a glowing and yet true picture of the advantages and pleasures of knowledge, and especially of medical knowledge and its various and beneficial applications.

Doctor Pattison begins his lecture after the approved fashion, by introducing the Jefferson Medical College and his auditory to each other, and requesting the favourable regards of the latter to the institution in which he is a professor. The body of the discourse is made up of brief sketches of *John Hunter* and of *Philip Syng Physick*, the first of whom he calls the Father of British Surgery, and the latter the Father of American Surgery, titles well merited by both these distinguished surgeons. Whilst we think the plan of holding up, for the imitation of the youthful student, the professional life of the great departed, praiseworthy, we must be allowed to express some doubts of the entire accuracy of the pictures in the present instance. Where a lesson is to be inculcated, we have a right to expect the most rigid biographical correctness, and that fancy shall not for a moment take the place of history, in the delineation of character any more than in that of the march of events. But we would premise for ourselves, that when we criticise some passages in this introductory lecture, we do not mean to insinuate aught against the *animus* or spirit in which it was delivered. We have had sufficient experience of the world to be slow in impeaching the motives even of an opponent, still less of one between whom and ourselves there has never been any clashing of either interests or of opinions.

Before reaching the main subject of his lecture, Dr. Pattison exhibits, very naturally, his object, which is to place the institution with which he is connected in the most favourable light. To a *couleur de rose* we can have no objection if the drawing be true to nature. That this has not been attended to in all points by the lecturer, we must now show; passing over, with a mere parenthetical protest, his calling Napoleon Bonaparte "the greatest man of modern times."

In this hemisphere, at least, this superlative appellation is thought applicable to Washington alone. The excessive laudation of the trustees of the Jefferson Medical College must surprise even the gentlemen themselves, when they are told in the language of the lecturer: "In their efforts to improve the system of medical education they were untiring. They made themselves acquainted with every improvement, and adopted it." We could have wished that there had been less secrecy in these matters, and that the improvements thus publicly boasted of had come to the knowledge of the profession. Is there any new and better plan of clinical instruction, any extension of the period of teaching, greater method and adventitious aids by museum, apparatus, models, drawings, &c., to which the Jefferson Medical College can make claim more than others in the country? If there is, the fact has not yet reached us; it should be promulgated, not merely to excite wonder but to induce imitation. The following little piece of history evinces of the frankness of the lecturer, and his dislike to flatter even his colleagues:

"Jefferson Medical College has, within a few, a very few years, emerged from its insignificance—from its being a small medical school, scarcely known beyond the street in which it was situated,—to occupy a place in public estimation and consequence, second to no medical school in the Union. I recollect perfectly, on my arrival at New-York, in the year 1832, on my informing some of my medical friends, men of the highest professional distinction in that city, that it was my intention to accept of the professorship of anatomy in the Jefferson Medical College; they inquired where the school was situated; they had never heard of the existence of the institution, and when I replied that it was in Philadelphia, they thought I must be mistaken, for they could not believe that a medical school could exist in that city without their being acquainted with the fact. Six short years have now elapsed since the period referred to, and I would ask, is there a single physician to be found now—no matter how retired his habits may be—no matter how remote from this city may be the village of his residence—who is not familiar with the existence, and with the reputation of our institution."

A wonderful transition certainly was this from darkness to light, from obscurity to fame. It is not formally affirmed—the lecturer's modesty forbade it,—but the inference seems pretty obvious, that the changed fortunes of the school are attributable, as certainly they were subsequent, to his official connexion with it. But is not the contrast rather too broadly drawn? What some of the lecturer's colleagues may think of his implied paramount nursing powers, they who were participant and active in giving the Jefferson Medical College origin and a *status*, and who have clung to it in all its changing fortunes, we will not pretend to say. It is none of our business, and does not come within the scope of our imaginings. But as far as the changes of this institution are matters of medical history, they are cognizable and to be judged by all. Let us see, then, how far the dry engraved facts resemble the above picture, distinguished as it is by its broad masses of colouring.

We cannot help believing, in the first place, that Dr. Pattison was deceived by his 'medical friends' in New-York, even though they were men 'of the highest professional distinction in that city,' who professed their ignorance of the fact of the existence, in 1832, of a college called the Jefferson Medical,

which had been then in the regular exercise of its functions for six years. His friends must have taken a friendly licence with him, and indulged in some quizzing at his expense; unless, indeed, we could believe that they had been, during a period of six years preceding, tenants of the 'Sleepy Hollow,' and had passed their time in the same state of happy oblivious sleep, in which Rip Van Winkle erst indulged during our revolutionary war.

In a preceding part of his lecture, the professor had said that "the infancy of Jefferson Medical College was feeble." Whilst we grant this, we can assure him at the same time, that it was nevertheless noisy, and that its putative parents and aid-nurses contrived that no mystery should hang over the birth of the new college, or privacy attend its lactation. The circumstances of the first were largely canvassed in town and country and in legislative hall; were preceded by memorials of various kinds, and discussed in the papers of the day with much vivacity; whilst the character and qualifications of the nurses themselves were scrutinized with no little point, and on some occasions, perhaps, with more asperity than justice. So rapidly, for a time, did these nurses succeed each other during its whole period of dentition, and so loud and noisy were their claims for notoriety, and vociferous their anger when discharged, that the poor bantling was in much more danger from the strife among its immediate keepers and guardians than from any interference or hostile attack on the part of those out of doors. We do not choose to particularize these contests, discreditable as they were to most of the parties concerned; but would merely advert to the fact of some of them having been carried into the law courts, and furnished matter for town gossip and gazette reports, as well as for judicial investigations and verdicts. It is no affectation on our part when we express a hope that such scenes will never be renewed, in connexion with either the deeds, or misdeeds even, of our medical men.

May we not now ask: whether it is probable that the succession of incidents, many of them certainly of very general notoriety, of which the Jefferson Medical College was the origin directly or indirectly, should have remained entirely unknown to intelligent professional gentlemen in the neighbouring city of New-York.

But again, were the professors who, within the period specified by Dr. Pattison, resigned their chairs in the Jefferson College, and took stations elsewhere, so unknown to fame, and so secret in their movements, and so silent respecting their vacated seats, that they did not carry with them to other places any knowledge of the existence of the College in question. Doctor Drake of Cincinnati, admitted by all to be a man of mark and note, taught for one winter in this institution. His accession was heralded in due form in different newspapers, and, we believe, other journals of the time. When he resigned his post in the spring, he was accompanied by Dr. Eberle, a professor in the school from the beginning, and at this time an author of repute. Dr. N. R. Smith had previously quitted his post of professor of surgery for a similar one in the Maryland University. Can we suppose that these several professors continued to preserve such a rigid incognito both during the period in which they were teachers in the Jefferson Medical College, and in that between their resignations and new appointments elsewhere, that any knowledge of their relationship to it, and impliedly of even its existence, had never reached the gentlemen, themselves

of high professional distinction in New-York. To the names already mentioned we might add Dr. Parsons, who was professor here during a winter, and who published a work on anatomy, with his title. Did he also go his way, and make no sign, and utter no sound to his brethren in New-York, on his return to his eastern home?

But though we should admit that these latter had been insensible to all the sounds of common report and conversational allusions and communications, it is harder to imagine them blind to the notices and references in medical journals, which ought to have met their eye, and, to a certain extent at least, engaged their attention. We shall endeavour briefly to show where and how they might readily, we will not say must inevitably, have been made aware of the existence of the Jefferson Medical College, anterior to 1832, the *annus mirabilis* in its history.

In the *American Medical Review and Journal* for April, 1825, there appeared an advertisement, in large characters, of the new Medical Faculty, appointed by the Trustees of the Jefferson Medical College at Canonsburg, which was to enter on its duties the following winter of 1825–6. In the first number of the second volume of the same Journal, for September, 1825, we read, on its title page, the names of four editors, to three of which are appended their titles of professors in the Jefferson Medical College.

Again, The *Medical Recorder* for July, 1826, gives the names and titles of the theses of twenty graduates in the new school; and in its April number for 1827 states the number of students in attendance during the preceding winter to have been from ninety to one hundred. The disparaging remarks which accompany this announcement, will find no place here, and are only alluded to as evidence additional of the probability of the attention of medical men being directed to the new College. In this same Journal for July, 1827, are given the names of thirty-four persons who obtained their degrees in the spring preceding, as duly attested by the Dean of the Faculty of Jefferson Medical College.

It is not necessary for our present argument to trace the fluctuating fortunes of the school in after years. We have adduced sufficient testimony, and in doing so, have not intended any disparagement of, as we certainly do not feel any unkindness to the institution itself, to prove the extreme improbability of distinguished professional gentlemen in New-York, being ignorant of its existence in 1832, years after the events so publicly and generally on record, connected with its origin and early history.

But we do not mean to intimate that either they or others were cognizant of any thing more than simple vitality.—Its usefulness, prosperity, or fame, during the period referred to, is a very different matter, for which we assuredly do not mean to avouch, without, at any rate evidence, which we are not now in possession of. It would seem, however, from the concluding part of the extract from the lecture made in a preceding page, that "there is not a physician to be found now—no matter how retired his habits may be—no matter how remote from this city—who is not familiar with the existence, and with the reputation of our institution" (The Jefferson Medical College). We do not doubt the fact as thus set forth. The press and the post-office have both done their required duty; and to all parts of the land, pamphlets containing the organization, plans, and aspirations of the College have been distributed, with an industry and perseverance seldom equalled. And who, indeed, are so fit to tell of deeds done as

the actors themselves;—who to hold forth hopes of magnificent attainment as they whose ardour is excited in the pursuit.

"In the graduation of the spring of 1833, the list of our graduates," continues Dr. Pattison, "only numbered *sixteen ! !* In four years afterwards, our list of graduates outnumbered that of our sister institution, the University of Pennsylvania—of that school with which we were accused of madness for attempting a competition." There is commonly but not always a proportion between the number of students in attendance on medical lectures, and that of the graduates at the end of the session; and hence it might be inferred, that, on the occasion mentioned by the lecturer, the class itself from which the graduates came was larger than that of the University, in the same season. But this would be an error. In no year has the number of medical students attending the lectures in the Jefferson Medical College been equal to that of the students in the medical department of the University.

The friends of the Jefferson Medical College must naturally hope that its progress may not be represented by the harmonic line, or that curve, one portion of which rises to a certain point, and the second declines from this point to the level whence the other began. The *crescendo* part of the waive has been described in terms of gratulation by the lecturer, as 'a triumph;' but he does not speak of the culminating point having been reached, and a gradual *diminuendo* in progress since the great graduation season. It may be said, and truly too, that these harmonic curves would serve to indicate the progress of every institution; but then they should be used for historical marks, not for notes of triumph. Our introduction of them here is in the first sense, alike opposed to unmeaning boast and needless depreciation.

We wish, most earnestly, that we could, with any sincerity, echo the opinion advanced by the lecturer, that the rivalry between the two medical schools of this city, if indeed such feeling be acknowledged by both parties to exist, "excites both to exertions which have produced, and which must continue to produce, the happiest influence on the medical education of our country." We wait for evidence of any such benign influence. We have none to offer that has come within the range of our own observation and experience.

The plan of presenting sketches of the lives and deeds of the great departed for the emulous imitation of the student is, as we have already said, a good one. The two personages selected by Dr. Pattison have both of them been shining lights in their day. On the manner in which they have been introduced, we have a few remarks to make—after an interruption longer than we had supposed it would be when we first yielded to it.

Justice is done to John Hunter, in reference to his untiring zeal in the acquisition of anatomy, his knowledge of organization and functions, his additions to physiological and pathological science, and his improvements in surgery. But justice is not done to the cause of education; we mean education in its larger and proper sense, a cultivation of the moral as well as intellectual faculties of our nature, in the lecturer's remark, after he had admitted the value of "classical acquirements and mathematical studies:" "I advert to the defects of John Hunter's early education merely for the purpose of proving under what disadvantages he commenced his professional studies, and how greatly it was his credit to contend against and triumphantly overcome them."

So far from John Hunter having triumphantly overcome the disadvantages of an early education, he was a continual sufferer, at the time, in happiness, and in his subsequent usefulness and reputation from these disadvantages. With a disposition naturally impetuous and prone to outbreaks, he indulged habitually in language and deportment which were alike disreputable to himself, and annoying and irritating to others. His sudden and lamentable death was the consequence of a fit of passion, the more dangerous from its not finding its habitual vent. Nor was he, even with his great and diversified powers of intellect, free from awkwardness of thought, and, still more manifestly, from involution and obscurity of style. All readers and students of his works, and the number has been, as it ought ever to be, large, must have experienced a difficulty in following the train of thought, and understanding the process by which certain conclusions, themselves very important, were reached. His different treatises, particularly the most celebrated one on the Blood, are like a rich mine, the ore in which lies deep, and is only to be procured after the expenditure of much labour and time. Hunter is an obscure and awkward dialectician—and although it may be said that a profound is not always a clear thinker, yet if he had enjoyed the benefits of a suitable mental training, there is but little doubt but that he would have been much more connected in thought and lucid in style, and have yielded to his students and admirers more pleasure as well as more instruction. But we need not, even were space and time allowed us, dilate on this topic just now, as the character and mind and services of the great surgeon and physiologist, in their varied lights and reliefs, will be placed before our readers in the pages of the "Library."

We are well aware, and might perhaps ourselves plead guilty to the charge, that introductory lectures are too much in the style of orations, in which metaphor and exaggeration take the place of the grave, and yet friendly inculcation of important general principles, and indications of the nature of the route which professor and students propose to travel together during the ensuing season. Comment has been made already, on the use of 'triumphant' and 'triumphantly,' as conveying ideas which are not borne out by the context. Similar extravagance of phraseology is manifested in the designation of John Hunter's character by the term 'transcendingly,' in the following paragraph, which serves to usher Doctor Physick to the notice of the reader.

"From the consideration of a character so transcendingly great, let us turn to view that of one equally worthy of our admiration and respect,—one with whom many to whom I now address myself have been for many years intimately acquainted,—one who, on the commencement of the session of last year, was still alive, and who even then, although worn down by disease and long suffering, would not consent to remain idle, but was to be seen, day after day, in despite of his own pains and infirmities, going forth, through our streets and our alleys, the MINISTER OF GOOD, the DISPENSER of the choicest blessings of the HEALING ART."

The lecturer, for want of inquiry, gives quite an erroneous account of the manner in which Dr. Physick spent the last period of his life. For many months preceding his death he was entirely prevented from practising his profession, and during the greater part of this time he was confined to his house by increasing bodily infirmity: and, for years before his demise, it cannot be said that he was to be seen 'going forth through our streets,' except in his carriage; nor did 'the alleys' come within the circle of his visitations. To the inhabitants of these, as well as to the poor and reduced every where, he was in the habit of prescribing at a certain hour daily, in his office. In doing so he discharged, skilfully we need not say, but humanely and kindly, his share of duty to the poor. His strength would have been utterly unequal to the task of visiting all at their homes, and hence the necessity for a selection of those who could be seen with the least suffering and expenditure of bodily power; for it was often, in late years, a painful effort for him to ascend the stairs on his way to a sick chamber.

The improvements and discoveries of Dr. Physick in surgery, and notably his operation for artificial anus are eulogised in becoming terms by the lecturer, whose own testimony on one point is worthy of being remembered. "As an

operator," says Dr. Pattison, "I have never known Dr. Physick surpassed, and I have been personally and intimately acquainted with most of the distinguished surgeons of modern times." Like his great predecessor and preceptor Hunter, Dr. Physick considered surgical operations as the showy, but far from the most useful part of surgery; and it is to his enduring credit, as mentioned in the lecture, that he has saved hundreds from amputation by the improved system of treatment which he introduced into practice for the cure of diseased joints.

To the accuracy of the pleasing picture, drawn by the lecturer of Dr. Physick's urbane deportment to his professional brethren, all those who have been associated with this distinguished surgeon in charge of the sick, will bear willing testimony—except in the following particular: "how clearly by his reasonings did he satisfy those with whom he consulted as to the correctness of his views, and the justness of the alterations in the treatment which he suggested!" We would say, on the contrary, from our own experience and that of our friends, that no man of Dr. Physick's eminence, and who was at the same a teacher, was so generally averse to what is called reasoning in consultation. His practice was more empirical than dogmatic; that is, he preferred recommending a remedy, on the strength of its having succeeding in a former case, without assigning the general indications for its use, or the precise pathological state to the removal of which it seemed to be adapted.

Persons take different measure of an individual's stature as they do of his mind. Our own impressions are not in accordance, on all points, with the description of Dr. Physick's personal appearance given by the lecturer; as when it is said: "His figure was rather under than over the common height, it was slight but on the whole graceful." To most eyes Dr. Physick would have seemed to be of the full stature, and all would say that the epithet graceful should be replaced by dignified. Few men had a more imposing and even commanding presence than Dr. Physick—few well educated persons had less pretensions to grace. Oft and again have we gazed at his fine face, but have never seen the 'broad expanded forehead' described by the lecturer. It was a fine forehead notwithstanding.

The lecture of Dr. Peter is chiefly taken up with a retrospective sketch of medical education in the United States, with a more especial reference to the changes, in this respect, wrought in the west. Some special pleading is introduced to show, that clinical instruction in hospitals is not necessary nor useful to the western student. The lecturer remarks, that it is a doubtful question whether, on the whole, the time spent by the western student, in the acquisition of such knowledge, in the existing state of the country, and in the period allotted to instruction in the medical schools, is not injudiciously employed.

We are both surprised and grieved that Dr. Peter should, for himself and his colleagues, utter such opinions, adverse as they are to universal experience, and all the analogies in the philosophy and practice, not merely of medical, but of every other kind of education. Similar absurdities were advanced by the former Faculty of the Transylvania Medical Department, some of whom are now the most earnest in inculcating the paramount necessity of clinical instruction. With a change of position, would not Dr. Peter find himself, also, under the necessity of taking the other side of the question from that which he now advocates? Another step, in this special and mischievous pleading, will be to dispense with practical anatomy and demonstrative lectures in general, including after a time chemistry. A stranger to our country, after reading some of the lucubrations of our trans-alleghany writers and lecturers, might be induced to believe that there was a marked difference between the number and combination of the mental faculties of western youth, and those which are found in the east, and in Europe; and that the common laws of logic and philosophy, which influence the latter, are quite inapplicable to the former. If the tendency of these heterodox opinions were to elevate the standard of excellence, and to stimulate to longer and more sustained efforts the persons to whom they are addressed, there would be little cause for complaint. But the reverse is the case; and what was denied to royalty seems to be at last conceded to republicanism; in there being a short and easy road to knowledge and science, without time or

trouble for their attainment. This last notion is not confined to our brethren of the west; it is, impliedly at least, inculcated on occasions nearer home. Hence, we believe, we may say, that if the cause of education be kept back, it is by the levelling doctrines of teachers and professors more than by the disinclination and restiveness of scholars.

One must wonder at the negligence in spelling the name of Doctor Physick, to whom frequent reference is made by Dr. Peter in his lecture; the more so when we see that there are direct quotations from, and references to the necrological notice prepared by Dr. Horner. The name introduced five different times by the lecturer is uniformiy given without the final letter, so that it reads Physic for Physick.

On the Functions of the Cerebellum. By DRS. GALL, VIMONT, and BROUSSAIS. Translated from the French by GEO. COMBE: also, *Answers to the Objections urged against Phrenology by Drs. Roget, Rudolphi, Prichard, and Tiedemann.* By GEORGE COMBE and Dr. A. COMBE. Edinburgh and London. 1838.

WE have been put in possession of a copy of this work by the kindness of Mr. George Combe himself, who is now in the city with a view of delivering a course of lectures on phrenology. The subject is altogether too important, and the facts and reasonings illustrative of its application too numerous and diversified to allow of our attempting even an analysis at this time, when the last sheet of our Journal is about to be put to press. In proposing to recur to it at another more convenient season, we must content ourselves, for the present, with giving a meagre outline of the contents of the volume before us. A well written preface, by Mr. Combe, is followed by an introduction, in which we meet with practical directions for observing the size of the cerebellum, and ascertaining its functions, together with a general outline of the encephalon. Dr. Gall's views and proofs of the function of the cerebellum are succeeded by the observations of Drs. Vimont and Broussais on the same subject, and a large number of illustrative cases collected by Mr. Combe. We next find a very important paper by Mr. Combe on the "Nature of the Evidence by which the Functions of Different Parts of the Brain may be Established." The latter part of the volume is made up of answers to the objections of Dr. Roget by Mr. Combe, and those of Professor Rudolphi and Drs. Prichard and Tiedemann by Dr. A. Combe.

The above sketch is enough to exhibit the number, talents, and intrinsic worth of the parties engaged; but a perusal of the work itself is required to enable the reader to do justice to the cogency and clearness of the defence of phrenology by its able and truly philosophical advocates.

Outlines of General Pathology. By GEORGE FRECKLETON, M.D. Cantab., Fellow of the Royal College of Physicians. London, 1838. Pp. 267.

THE aim of the author of this clear and instructive manual is well set forth in the last paragraph of his short preface. "It is difficult," says Doctor Freckleton, "when entering upon the study of any science, especially one requiring so much caution and judgment as the treatment of disease, to know how and what to observe, and to draw correct conclusions from the appearances presented to us. The experience of others must at first be our guide; and to offer a compendium of general principles, deduced from the best authorites, has formed my present object."

Without being open to the charge of pedantry, the author of these outlines displays much reading and available learning with a due infusion of the positive knowledge of the day. The narrative is easy, and descriptions clear, by which, in addition to its other merits, it commends itself to the reading physician and practitioner, as well as to the student. It would be difficult to give by extracts an adequate idea of the work, which we regret the less, as it will find an early

place in our 'Library,' there to receive an award from our readers similar, we hope, to the one which we now pronounce in its favour. We hardly deem it necessary to add, in conclusion, that we do not either formally or by implication conceive ourselves as thereby testifying to the accuracy of all Dr. Freckleton's pathological views.

A Treatise on Neuralgia. By Richard Rowland, M.D., Member of the Royal College of Physicians of London; Physician to the City Dispensary. London, 1838. Pp. 173. 8vo.

The seeker after novelty will be disappointed in reading this volume; but, on the other hand, he who is desirous of finding in a small compass the successive opinions held respecting the pathology of Neuralgia, its varieties and the remedies resorted to with more or less success for its cure, will peruse it with profit. Pure empiricism and exclusive theory are equally, though from opposite causes, mischievous, and to be deprecated in the medical management of Neuralgia. The disease is neither entirely periodical and the result of malaria, nor of inflamed and thickened neurilema, nor of local, contiguous, or remote irritation, as of a decayed tooth, exostosis, a blow, cicatrix, &c. But it is right and proper that the physician should be aware of its occasionally originating from each of these causes. On the other hand, although we may sometimes find it necessary to make trials of different medicines without any very clear guide in the pathological indications, it does not follow that, therefore, we are to use indiscriminately and conjecturally the various agents or modes of treatment which we know to have been employed on former occasions. The poor stomach first, and the nervous system secondarily, may be saved much distress and derangement of function by prudent forbearance from following the random dictates of empiricism. A patient inquiry, resulting from a belief that Neuralgia is the result of a positive and appreciable pathological condition, will often lead us to the desired discovery of this latter, and point out the therapeutic means to be enlisted for its removal or, at least, mitigation.

On the Liquefaction and Solidification of Carbonic Acid. By John K. Mitchell, M.D. From the Journal of the Franklin Institute. Vol. xxii.

In a former number of this Journal (for July, 1838), we introduced a note from Dr. Mitchell, respecting the liquefaction and solidification of carbonic acid and the phenomena attendant on the new product. The present paper contains, more in detail, these and other interesting facts, explanatory of the mode of constructing the appropriate apparatus. Dr. Mitchell was deprived of the advantages of a description of the method of procedure, and of the apparatus used by Thillorier. Triumphing, however over these difficulties, he was able, "aided by the suggestions of an intelligent pupil in France, and the assistance of friends here," "successfully to repeat most of the experiments of Thillorier, and to verify some, and correct others of his results." These are the best praise which can be offered for Dr. Mitchell's ingenuity and perseverance in making us acquainted with phenomena so novel and curious. A draught of the apparatus employed by him accompanies the present paper, and, together with the written description, serves to render its structure easily understood.

We had made a summary of, and extracts from an Appeal to the People of Pennsylvania on the Subject of an Asylum for the Insane Poor of the Commonwealth: but they are crowded out of the present number.

In our next or February number of the Library, the publication of Williams's Lectures will be completed. Place will also be given to Dr. Dickson's paper on Dengue, which will be followed by Freckleton's Outlines of General Pathology, and a valuable work by Dr. Willis, now on our table, entitled Urinary Diseases and their Treatment. London, 1838.

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ON FRACTURES.*

We do not propose to give an analysis of the pamphlet of Mr. Burke, because it contains nothing which is not, to some extent, a matter of every-day practice; to as great an extent, indeed, as the principle can be safely applied. We apprehend the author's experience in the treatment of fractures must be very limited, or he would not have imbibed so great a horror of the judicious application of splints; a horror so intense, that he appears to deem any sacrifice light by which they may be superseded. By splints he can conceive nothing but an obdurate piece of wood or iron, which, if it enter not into the patient's soul, may at least very much inconvenience his limb. Now, in our innocence, looking at the subject in an enlarged sense, we had conceived that any apparatus by which the necessary resistance to displacement was offered, whether it were a piece of pasteboard, a junk, or any similar contrivance, was, in fracture-language, just as much a splint as a piece of board or iron so many inches long and so many wide. On this point we would adopt Mr. Lonsdale's sentiment:

"It is the fact of many fractures getting well by position only that, I believe, has led some surgeons to adopt the erroneous opinion that splints are altogether useless, or any mechanical contrivance that tends to keep the ends of the bone in apposition. How far such an opinion is correct, any one who has had much experience in treating fractures must be able to judge; for there are many cases that absolutely require mechanical means to steady the portions of bone, while the majority of fractures are benefitted by splints of some kind. I am inclined to think that those who advance the sweeping assertion of splints being useless, have formed their opinion upon very limited experience, and judge of single cases that have got well under their care without their employment, instead of taking the majority of cases, which are always benefitted by their use, and many of them absolutely requiring it." (p. 51.)

The impression we derive from the perusal of the second work, from which we have just quoted, is, that Mr. Lonsdale is a careful observer, that he possesses ingenuity in mechanical contrivances, and that he has a competent knowledge of the routine treatment of fractures in the hospitals of this country; but, if we had been consulted, we are not sure that we should have advised him to publish the work before us. It would require a better reason than the difference in price to convince us that, whilst we possess Sir A. Cooper's work, the profession required the present. This most distinguished surgeon, in the plenitude of his experience, felt it was unnecessary to give any other than his own ideas; but our author is a much younger man, his experience comparatively small, and,

*Remarks on the Treatment of Fractures of the Lower Extremities without the Aid of Splints. By J. F. Burke, M. R. C. S.—London, 1837. 8vo. pp. 39.

A Practical Treatise on Fractures, illustrated with sixty woodcuts. By Edward F. Lonsdale, Surgeon, Demonstrator of Anatomy in the Middlesex Hospital School of Medicine.—London, 1838. 8vo. pp. 536.

to render his work acceptable, he should have made it complete. We cannot say that this is exactly the case, although it contains much, and may be safely consulted by the young surgeon in his difficulties. We, in particular, desiderate some account of fractures of the cranium and of the vertebræ; subjects of the highest importance. We also regret that no allusion is made in this work,—nor indeed, we may say, in the generality of works upon Fracture,—as to what should be done when there is a vicious consolidation. Should an attempt be made to rupture it? Some persons have come to the conclusion that such cases should be left to themselves; but we think the facts adduced by Fabricius and Purmann, and more recently by Œsterlen, seem to prove that the rupture of the callus may be often done successfully. Œsterlen gives eight cases which establish the possibility of straightening the limb by extension made at the time pressure was applied at the deformed joint, even at the end of the fifth week. For the particulars of these cases, and the mode of operating, we refer to the original work.* Various modifications of the same general mode have been employed by other men, and with considerable success.

We also have some reason to complain that Mr. Lonsdale has not used sufficient diligence in ascertaining modes of practice even amongst ourselves. Much time and space are occupied in proving that, in fracture of the forearm, the palm of the hand should not be placed against the chest. This was scarcely necessary: the common practice is not so: the dictum of our own quondam instructor was, "bring the hand so that you can spit into it." Again, he should be aware that, although luxations of the wrist are uncommon, yet that they may exist. In our own country, up to a very recent period, luxation of the wrist was supposed to be not an unfrequent accident; fracture of the lower portion of the radius being mistaken for it. In France, for many years, a directly opposite opinion was maintained, based upon the great experience of Dupuytren: he, as well as Marjolin, regarded all cases of luxation of the carpus, described by our observers, as cases of fracture of the inferior extremity of the radius. We think it excessively doubtful whether the accident be possible without fracture, as a consequence of a fall upon the palm of the hand; because the repulsion of the ground is entirely directed upon the inferior extremity of the radius, and not upon the ulna: neither do we believe that the fracture of the radius is likely to occur as a consequence of a fall upon the dorsum of the flexed hand. In the work of Cruveilhier (*Anatomie Pathologique*, 9e livraison,) may be found conclusive evidence of the occasional occurrence of such an accident.

It must not be supposed, from these strictures, that we do not think the work of Mr. Lonsdale creditable to him, or that it does not contain much that is good. The ordinary modes of treatment practised in our country are plainly described in it; its woodcuts afford considerable assistance towards comprehending points which descriptions might leave doubtful; and several ingenious apparatuses, of easy application, of the author's own invention, are given in it,—especially one for fractured jaw: finally, it is published at a moderate price. We extract from it the following interesting table, showing the comparative frequency with which certain fractures occur. It will be interesting to compare it with a table of the same kind, and on a still larger scale, and containing more particulars, extracted from the records of the Pennsylvania Hospital, published in our last number.

*Ueber das Kunstliche Weiderabbrechen fehlerhaft, &c.—Tubingen, 1828.

Table of the comparative Frequency of Fractures in the different Bones, observed at the Middlesex Hospital, from Sept. 1831 *to Sept.* 1837.

		Out-Patients.	In-Patients.	Total.	
Hand	Phalanges	63	3	66	
	Metacarpus	50	—	50	
Fore Arm	Both bones	85	8	93	386
	Radius, singly	193	4	197	
	Ulna, singly	63	1	64	
	Olecranon	29	1	30	
	Coronoid process	2	—	2	
Humerus	Shaft	78	11	89	118
	Neck	13	—	13	
	Condyles	16	—	16	
Clavicle		260	13	273	
Scapula	Body of the bone	3	5	8	
	Acromion process	8	—	8	
	Neck of the bone	2	—	2	
Face	Ossa Nasi	10	3	13	
	Upper jaw	1	—	1	
	Lower jaw	9	23	32	
Thorax	Ribs	270	87	357	
	Sternum	—	2	2	
Pelvis		—	7	7	
Thigh	Adults	—	144	144	
	Infants	37	—	37	
Patella		—	38	38	
Leg	Both bones	—	197	197	289
	Tibia	—	41	41	
	Fibula	—	51	51	
Foot*	Os Calcis	—	2	2	
	Astragulus	—	1	1	
	Toes	4	7	11	
Skull		—	48	48	
Spine		—	8	8	
	Total number, during six years			1901	

With these few remarks we dismiss Mr. Lonsdale's work, and shall devote the remainder of this article to the consideration of one particular mode of treating fractures, which has been of late years extensively used in other countries, and which, we doubt not, will, ere long, be largely tested in our own. We are the rather led to confine our notice to this point because the more common treatment employed in England is presumed to be familiar to all our surgical readers, and because we foresee that this treatment is about to undergo important modifications from the greater to the less adoption of the treatment *by the permanent or immovable bandage*, which we are now about to consider.

We are most ready to admit that, carefully and judiciously employed, the treatment by splints, such as are in common use, ensures the integrity of the limb; but at the same time we cannot conceal from ourselves that serious inconveniences attach to this method: the patient is long confined to his bed; he becomes extremely fatigued by the position which it is necessary to preserve; the digestive and other functions are impaired; and the general health may, and often does, greatly suffer. To obviate these pressing evils, and to enable the patient to change his position as often as it becomes fatiguing, or indeed to rise from his bed, a variety of means have been employed; and it is singular that,

*"Fractures of the small bones of the tarsus and carpus are not inserted as distinct fractures in the hospital books, but come under the head of severe lacerations or bruises, the injury of the soft parts being the most important part: I have, however, seen many cases."

with the exception of Amesbury's apparatus, and certain modifications of it, such as that in use at the North London Hospital, which have, from time to time, been, to a limited extent, introduced in practice, no means of enabling the patient to rise early from his bed have been much employed in this country. Better success attended the attempts which were made in other countries to escape the inconveniences alluded to, and several forms of permanent immoveable apparatus have been among the means employed for this purpose.

When or where this system of treatment originated, it is not easy to determine; nor can we be sure that the idea, suggested to the mind of Geoffroy by an inspection of some relics found in Egyptian monuments,—that some such system existed in those ancient ages,—was correct: certain, however, it is, that in very early times many of the nations of the East, Arabs, Persians, and others, employed the system, which has continued to be used up to the present moment, and which seems to retain much of its original simplicity.

At the sitting of the Académie de Médecine, held 13th January of the present year, M. Sedillot presented a fracture-apparatus which he brought from Constantine, and which he had taken from a Turkish woman, whose arm had been fractured by the bursting of a bombshell. This apparatus was composed of thirteen "*nervures*" of palm, each one inch wide, two to three lines in thickness, and nine inches long, convex on one surface, plane on the other, and arranged along and secured to a portion of prepared sheepskin; a space of three or four lines being maintained between them. This apparatus was supported upon the members by means of cords of wool loosely applied, but susceptible of constriction by twisting pieces of wood under them until the necessary force is given: in fact, a species of tourniquet. So arranged, this apparatus is perfectly applicable to simple fractures; but, in the case of the poor woman referred to, it was compound, and required dressing: to accomplish this without removing the apparatus, a portion of two of the splints, with the skin which covered them, was removed. Many modifications of this apparatus appear to be in use among the different tribes, and they are all ingenious. Certainly the contrivance which they employ to give to the apparatus the necessary constriction is worthy of remark; for it does not expose the member to any shock, and completely answers the end.

Although, in our estimation, the means to which we invite attention may be incontestably superior, we cannot withhold our admiration of the address and ability displayed by men who, deprived of all the resources we possess, having at their disposal only pieces of wood, coarsely divided, skins of animals, and undressed cords of wool, treat so methodically such a serious lesion, without neglecting any of the indications which European art, despite of all its perfections, has only lately recognized: we mean, the necessity of well and conveniently maintaining a state of perfect rest until the consolidation is complete.

According to De Pouqueville, (*Voyage dans la Grèce*, 1820–1,) the ancient as well as the modern Greeks employed a permanent apparatus, which was applied soon after the receipt of injury, and which, with perfect security, enabled the patient to move the limb in any direction: for the purpose of consolidating the apparatus, which was not removed from the moment of its application to that of cure, a composition into which mastic entered largely was used. A similar system, though brought about by other means, is employed in Spain, where it would seem to have been introduced by the Moors; in Corsica, where it is accounted a surgical heresy to remove an apparatus before the consolidation is complete; in the Brazils; in Italy, where it has been modified, of late, by Assalina, who used moistened pasteboard as the agent; in Switzerland, where, according to Fodéré, is found a class of men called "Rêbouteurs," whose business is to set broken bones and to reduce luxations, and who travel through Switzerland, the Alps, Savoy, Alsace, and the Vosges, in the practice of their art. In the Vosges there is a family named Valdajos, who for two centuries have transmitted from father to son the secret of treating such accidents. Their success is said to be remarkable, and their modesty to equal their celebrity. Valdajos, Fleurot, and the Jollans attribute their success entirely to the permanence of their apparatus, which is composed of moistened card-board, or osier splints, solidified by mastic or pitch.

In 1734, the ancient Academy of Surgery of Paris offered the following as a prize-subject: "To determine, in each kind of surgical disease, the cases in which it is desirable to dress frequently, and those where it should be rarely done." The essay to which the prize was awarded was that of Lecat, who, in speaking of fracture, says, "A fracture, if simple, when reduced, only requires to be maintained: it may be examined *once*, to see that there is no displacement or deformity." In the year 1768, a memoir was presented to the same Academy by M. Moscati, in which he described a mode of treatment which he had employed for the cure of several fractures: he made a kind of mould, by means of compresses and bandages, saturated with white of egg: this apparatus remained applied up to the moment of cure.

The system thus introduced was not employed, even by the French, until the time of the earlier campaigns of Napoleon. In the first campaigns of Prussia and Poland, where the stations of the grand army were inconvenient and distant, and where M. Larry found much difficulty in transporting the wounded, especially those suffering from fracture, he employed the system extensively, and with great success: in fact, many of the wounded at the battle of Moskwa were removed into France, completely cured, and without a single removal of the apparatus. M. Larry asserts, that, "whatever may be the nature of the fracture, the apparatus ought to remain applied, without removal, until the union is complete, and the wound, if there be one, entirely cicatrized; that no thought need be taken of the fluids or purulent matter which may be exhaled from the wound, because, in depriving these solutions of continuity, of contact with air, we isolate them, on the one hand, from the humidity or insalubrious condition of the atmosphere; on the other, we spare the patient the pains of frequent dressings; we prevent the chance of motion among the fragments of bone, local irritation, erysipelas of the part, or inflammation."

The apparatus he employed for the lower extremity was composed of a linen cloth, of the necessary length; two junks, an inch and a half in diameter, somewhat shorter than the linen; a small thin mattress, or cushion, stuffed with oats, and of the length of the linen; a "talonnière," or heel portion; a conical cushion, six inches long, three wide, and at its base two thick; three six-tailed compresses; bandages, and resolvent liquid—a mixture of camphorated spirit, extract of lead, and whites of egg, beaten up with water. The mode of application is quite simple: the limb is carefully raised, reduction is made, and the apparatus is disposed in the following order: the ligatures, five or six, the linen several times double, the bandage; the limb is now placed on the bandage, which lies upon the linen. The linen must extend beyond the heel and the popliteal space; compresses, dipped in the discutient fluid, are smoothly placed upon the fractured point; the bandage, similarly impregnated, is now brought carefully around the leg; the heel-piece is placed under the tendo-Achillis, its base corresponding to the heel; the cushions are placed laterally in the hollow of the leg, the longest externally; the junks are now brought on either side of the leg, and rolled in the free border of the linen, until they are on the level of the leg: the ligatures are then drawn, constriction being gradually made from the knee downwards, care being taken to avoid placing one over the fracture; a stirrup is placed under the plantar surface of the foot, and attached to some of the ligatures. Such is the apparatus, which does not require much longer time to apply than those which are ordinarily used. It requires more care, however, because it is destined to remain through the whole time necessary for the cure.

In the preamble of his German translation of the *Parallèle* of Roux, published in 1817, Froriep says, "I am astonished that the method of the Moors of northern Africa has not been used: it consists in surrounding the limb with an envelope of plaster." He thought that it would be necessary to cast it in many pieces, so that it might be easily removed, if necessary. The first experiments on the subject at the Berlin Hospital were made by Keyle, at the suggestion of Professor Kluge, director of the hospital, in 1828 and 1829. In 1829, Dr. Rauch, and afterwards Dr. Muttray, made it the subject of their inaugural theses; and, after the latter, we shall describe the manner in which Dieffenbach arranges his

apparatus.* He prepares a box of the necessary capacity; the limb is rubbed over with some fatty substance, is properly extended, and the semifluid plaster is poured in in sufficient quantity to envelope the limb: at present, if the fracture be complicated, he envelopes only four fifths, or even less, of the limb, so as to permit of the necessary dressings.

A correspondence has lately appeared in the London Medical Gazette, in which the merit of originating this method has been claimed by Mr. Sweeting, for Mr. Bond of Glastonbury, and by Mr. Beaumont for himself: perhaps, if this statement meet the eye of the parties, they may think it necessary to prolong a discussion which cannot end in giving to either party the merit of the invention. The apparatus invented by Mr. Beaumont for receiving the leg and the plaster, and at the same time keeping up extension, is ingenious; it is in the museum of the College of Surgeons in London. In the late Polish struggles, a similar method to that of Dieffenbach was advantageously employed by M. Malcz.

In 1834, M. Seutin, chief surgeon of the Hospital Saint Pierre, at Brussels, charged with the care of a large number of the wounded at the siege of Antwerp, (many of whom suffered from fracture,) employed the method of Dieffenbach as a means of treatment; but he found that the material lost in tenacity what it gained in solidity; that it did not resist external shocks—that it was easily broken; thus losing the most precious advantage, that of permitting progression. He then employed the apparatus of M. Larrey, which possessed neither of these drawbacks; but he found in it another: the ingredients which enter into its composition are not always easily procured, and its removal is troublesome, and the patient sometimes complains of its weight. These circumstances induced him to seek some means by which the principle might be carried out in a manner more free from objection; and such a means was presented to him in *starch*. By means of starch an apparatus was arranged which was easily procured, and not costly: it acquires considerable solidity, and a tenacity which enables it to resist perfectly external shocks; and, when its removal becomes necessary, it is easily accomplished without the destruction of any portion of the apparatus. From that time he has treated all cases of fracture, not only in the hospital, but in his private practice, by this method, with the most complete success.

We have ourselves employed this mode of treatment with the most gratifying result in some cases where the tumefaction was considerable.

In the practice of M. Seutin, on each occasion the bandage has been promptly applied, and the patient has been, in the greater number of cases, raised up, and placed on crutches, as soon as the bandage was thoroughly dry. Persons have proceeded on their journeys at the end of three days from the application of the apparatus. Those living in the town, with simple fracture, are bandaged, looked after for four or five days, then discharged: at the end of five or six weeks they come again to the hospital; the apparatus is removed; they are found cured, and ready to return to their usual occupations.

Now, beyond the success of the treatment, this is a matter of first-rate importance. At present, with us, a tradesman to whom such an accident occurs is prevented from attending to his business; a traveller, on urgent business, must be detained at, perhaps, a country village where the accident may have happened; while, if our statement as to the efficacy of the treatment be correct, no such inconvenience need attach to either.

The mode of application of this apparatus is as follows: immediately after the reduction of the fracture, the limb is surrounded by compresses dipped in Goulard water; a common bandage is carefully applied over these, from the root of the toes to the knee, (supposing the leg to be the seat of fracture:) this bandage is then, by means of a brush, covered over with thick starch; then another bandage is applied, beginning at the knee and descending towards the foot: this is covered like the first, to which it adheres, except on either side of the tendo-Achillis, where a little padding is applied. Four pieces of thick pasteboard are moistened and moulded upon the leg, before, behind, and on either side of the

*Muttray, De Cruribus Fractis gypso liquefacto curandis.—Berlin, 1831.

fractured point: these are secured by two other bandages, one passing from the heel to the knee, the other from the knee to the heel, and covered by starch as before. From two to four days occur before the apparatus is perfectly dry; and from this moment the patient may get upon crutches, a support being given to the affected foot by a stirrup round the neck.

On the 25th September, 1837, M. Velpeau presented to the Academy of Sciences a memoir in which is discussed the two prevailing systems of treatment. He maintains that, whatever may be the nature of the fracture, whether accompanied by tumefaction or wounds of the integuments, reduction should be immediately proceeded with: this being accomplished, the part is to be surrounded by compresses, and a bandage moderately firmly applied, extending upwards from the points of the figures or toes to the superior extremity of the fractured limb: the bandage is then to be brushed over with starch, and so on. The compression, being equal and moderate throughout, sustains the tissues, without occasioning the slightest uneasiness: the patient may turn, move, and act in bed as if there were only simple contusion of the leg. He is no longer condemned to lie on his back for six weeks or two months: he may get up on the third day; he may, without inconvenience, sit on a raised seat, because the leg may be moderately flexed; he may walk with the assistance of crutches, the foot being sustained by a stirrup round the neck. M. Velpeau submitted to the inspection of the section of Surgery, patients who walked on the second, third, fourth, and sixth days after the occurrence of the accident. It is admitted by M. Seutin that the principle upon which this system is framed is a simple, but certainly a successful modification of that of Larrey. It has been employed by him in about two hundred cases, with the greatest success; by Velpeau; by a considerable number of surgeons in France and Belgium; and by ourselves, in cases in every respect confirming the statements made in its favour by the persons to whom we have referred.

We shall now shortly consider the objections which have been raised against the principle upon which the system is founded; and we shall hold that, at the present moment, the method is most perfectly carried out by the apparatus of M. Seutin.

The principal objections which have been raised against this method of treating fractures are the following: If complete immobility be so necessary to prevent motion at the fractured point, this, it is objected, is often not attained because from thirty to sixty hours are required for the complete desiccation of the apparatus, during which time motion may be permitted; and because, if, at the moment of application, the tumefaction be considerable, when that subsides, a large space will be left between the bandage and the limb; and there will be, therefore, no resistance to displacement. The answer which may be given to this objection is, that, when a fracture is reduced, it is not usually in the first two or three days that displacement happens; it is after this period, and when motion, involuntary or indispensable, is daily repeated, and the ordinary bandages have become loosened, that this occurs. Now, although humid, the starch apparatus maintains coaptation during the first three days, with at least as much firmness as the ordinary apparatus; that time passed, the danger of displacement is over; the pieces entering into its composition form a compact, coherent mass, exactly moulded upon the limb, adapting itself to all the inequalities of surface, and forming with it a perfect whole. A displacement, according to the axis or to the circumference of the limb, is completely prevented, because the superior fragment is included in the same mould as the inferior, and both must together be carried in any direction which is given to the limb; for no separate portion or fragment can possess the power of moving without the motion of the whole.

If we move a lower extremity thus maintained, what happens? If an impulsion is given to the foot, the movement is transmitted to the leg, to the thigh, to the pelvis: no partial movement can occur, but the whole member must be borne in the direction of the impulsion, and no displacement of the fragments can have place, because all are moved in the same direction at the same moment.

Already many substitutes for starch have been proposed, with the view of removing the inconveniences with which the apparatus is charged. A composi-

tion of starch and alum, glue, pitch, and other substances, have been named. M. Lefargue has just detailed a case in which he employed a mixture of starch with gypsum in fine powder, in which the apparatus was perfectly firm in six hours. M. Velpeau at present employs, with the same view, dextrine.

With respect to the second point, as to the space which may be left between the bandage and the limb, it usually happens that it is not considerable; it is not produced until after many days; the work of consolidation is then somewhat advanced; the ends are included in a callus which affords a powerful support.

Supposing the apparatus to be placed on a limb which is much tumefied, and that tumefaction rapidly subsides, so that at the end of a few days a considerable interval is found to exist between the limb and the bandage, the inconvenience may be remedied by firmly applying another bandage. The solidity of the apparatus might be thought an obstacle to the action of the bandage, but experience has shown that the difficulty is not insurmountable.

Another objection which has been raised is, that the early application of a bandage, before the development of a coming tumefaction, may produce a strangulating effect. Experience has shown that the fears of gangrene, as a consequence of this pressure, are unfounded. When an ordinary bandage is too tightly drawn at the level of the fractured bone, whilst the lower or more distant portion of the limb is less firmly compressed, tumefaction follows, which, if the constriction be continued, will end in gangrene; but a pressure of an uniform character, extended from the toes or fingers, uninterruptedly, along the member, is opposed to the tumefaction of the parts and to gangrene: in fact, by such pressure, we may procure atrophy of the limb, but not gangrene. Therefore is it important that the compression should be exact and uniform; and, in a large majority of cases, its effects, so far from being injurious, will be found to be decidedly salutary.

In fact, there are two kinds of compression: the one which is opposed to the influx of venous blood, (that, for instance, which we establish circularly around the arm when we wish to bleed a patient;) the other, which is opposed to the ingress of arterial blood, and favours the egress of venous blood, is that of every agent which compresses a limb equally at all points, and commences by a methodical compression of the portion farthest removed from the trunk. The first determines gangrene when long continued; the second is decidedly opposed to inflammation; the first is as strongly repulsed by the advocates for permanent bandaging as by others; and the second must belong to that method properly employed. Still we would say that, where the tumefaction of the limb is very great, the application of the apparatus should be delayed for some days; not because pressure would exercise any baneful influence, but because, when the tumefaction is dissipated, too great an interval may be left between the limb and the bandage, and because some difficulty might be experienced in determining upon the exactitnde of the coaptation.

Another disadvantage which has been attributed to this method, is, that the practitioner is left in the dark as to the state of the limb; that, when once applied, it must there remain up to the moment of consolidation of the fracture; and that, before this period, we cannot ascertain whether there be eschars, abscess, or other similar complications. If only moderate attention be used, none of these accidents need occur: they must produce pain and general symptoms; and nothing can be easier than to remove the bandage. As far as strangulation is concerned, too, the extremities of the fingers or toes, which are uncovered, will always give timely indication of the approach of gangrene.

Again, it has been said that the bandage may produce excoriation and eschars, in consequence of the unyielding nature of its materials, against which the integuments may rub and become ulcerated. When we consider that the soft parts within the bandage remain perfectly immobile, and that the compression is exercised equally at every point, the apparatus being exactly moulded on eminences and depressions, we shall conclude that the occurrence of such accidents must be extremely unfrequent. Besides, the first layer of starch is on the outside of the bandage, and not in contact with the skin, and, even were it otherwise, the inconvenience might easily be avoided by interposing between the bandage and

the limb any substance which, without preventing the necessary compression of the parts, would obviate such an inconvenience.

Such are the objections which have been urged against the treatment of simple fractures by this method: against the system, as applied to the treatment of fracture with wound of the integument, a more formidable objection has been made. It has been stated that pus is confined, and that the consequences are extremely injurious. The most conclusive answer which can be made to this objection is, that many hundreds of cases have been treated by this method, and that such consequences rarely occur. When the tumefaction is dissipated, and the period of suppuration has set in, the pus is poured out, penetrates the compresses, and gradually the different parts of the apparatus become impregnated with it. Some time is occupied in the production of this effect, and a multitude of facts clearly demonstrate that, beyond this point, suppuration very rarely proceeds. At first the purulent matter occupies the space left vacant by the subsidence of the tumefaction, but its force of expansion proceeds no further; the compressive power of the apparatus restrains it; there is no reflux, and infiltration of the integuments hardly ever takes place. It is, therefore, a new obstacle to the farther pouring out of purulent matter, which soon undergoes many changes; certain fluid portions are absorbed; and, being preserved from contact with atmospheric air, it does not contract those deleterious qualities which, under the influence of this agent, it usually acquires: the other portion extravasated between the integuments and the apparatus, and which pervades the latter, evaporates, leaving a concrete portion, which forms a stratum around the limb, which singularly adds to the solidity of the apparatus.

Before we proceed further, we will refer to the apparatus of the Arabs; and, certainly, we cannot say less in its favour than that it is a true "immoveable" apparatus, of easy application, more simple and effectual than that of Dieffenbach: little less so than that of Seutin.

Those persons who have no fears with regard to the necessity of providing for the escape of pus, may urge the bad consequences of leaving the wound exposed, and of the less rapid cicatrization; and no doubt the introduction of that principle would be a most important improvement upon the Arab system. Certain it is their apparatus perfectly accomplishes the common indications in treatment; the fragments are maintained motionless, the member is submitted to a uniform compression, variable at will, without shock or disturbance: and, with respect to their arrangement when the fracture is compound, it must be admitted that, when the opportunity of examination is unfrequent, the course they take is the safest.

We will now contrast, very shortly, the two systems of treating fracture of the lower extremity:

The method commonly employed in this country requires a confinement to bed, in the same position, for a period varying between three weeks and as many months. If the patient be in robust health at the commencement of this treatment, it is damaged at the end; if he be debilitated, that debility is aggravated; if he be occupied in trade or any occupation requiring his personal attendance, it must suffer in his absence; if he be a traveller, where he falls there he commonly lies, whatever may be the inconvenience: if the fracture be compound, all these evils are aggravated; the patient may be pulled down by profuse suppuration, or his wound may be exposed to all the accidents to which such a surface is liable. There are also other considerations of much importance which belong to the subject: frequent watching is necessary, and this among the poor in rural districts is frequently impracticable. For instance, a man may be surgeon to a large union of parishes under the present administration of the poor-laws; three or four fractures may happen at different points of that union: it is impossible for him to give them all the necessary attention; and, though the fractured bone may unite, it is often at an angle. Under the other system, the necessary apparatus may be found in a cottage: it is of easy application; it is not irksome to the patient; tumefaction, when present, is more speedily dissipated, and, if it be not already developed, is almost constantly restrained; the patient may, under ordinary circumstances, be left with a conviction that all will

go on well; and, when the union is accomplished, instead of being reduced, by confinement, to a debilitated condition, the patient is enabled, on the fourth or sixth day, to leave his bed; the tradesman to attend to his ordinary business; the traveller to proceed on his journey without risk; and, if the fracture be compound, the tendency to suppuration is restrained, and the injury rapidly reduced to one of a simple nature.

It is true that, in Mr. Amesbury's apparatus, we have long had a means of enabling the patient to rise early from his bed; but we have not usually availed ourselves of it; and, for this reason, we apprehend—though at last reason, if opposed to experience, must yield,—that an impression exists, based upon the analogies of wounds of the soft parts, that a depending position is not adapted to early consolidation. But the adoption of this system does not necessitate the depending position for a longer time than is perfectly comfortable to the patient; but it allows of the patient changing his position as often as he may please; rising from his bed, and moving without assistance, and without risk from one room to another. This might, no doubt, have been accomplished by means of Amesbury's apparatus, but it is cumbersome, costly, and much more fatiguing to the patient than that of Seutin.

To those persons who are unconvinced by our statements, we would say, make the experiment yourselves; make it fairly and without prejudice; and do not pronounce judgment without having experimentally tested its correctness.

There yet remains one method of treatment of sufficient importance to require that we should direct attention to it,—the method described by Mayor under the term hyponarthecia. This plan, suggested by M. Sauter, essentially consists in a square or oblong piece of board, longer than the fractured limb, a pillow destined to receive it, cords to be attached to the corners of this board, and a pulley by which it is to be suspended. Upon this apparatus the limb is placed, and secured by means of bandages, so as to form, as it were, one piece with the machine: if the bones are disposed to ride, extension is made, a bandage is applied on either side of the fractured portion to secure it.

In the *Gazette Médicale*, (1835, p. 433, and 1836, p. 187,) may be found propositions to modify this apparatus, made by M. Munaret: he proposes to substitute for the board a metallic gutter, not unlike that adopted by Mr. Liston.

The great object accomplished by these contrivances is to suspend the limb at any required elevation, which might vary with the exigencies of the patient, to admit of the application of dressing, and to enable the patient to be moved. But these desiderata are obtained at considerable sacrifice as compared with the immoveable system; but, compared with the system usually employed in our own country, its advantages are manifest.

So long, however, as the opinion is entertained that the consolidation at the fractured point is the result of an action by means of which a substance is poured out in and around the fractured extremities, and that that process is best accomplished by the most perfect repose, so long must we maintain the opinion that, the more perfectly this end is answered, the more easily and rapidly will the business be performed.*—*Brit. and For. Med. Rev.*

PATHOLOGY AND THERAPEUTICS.

ON THE PERNICIOUS EFFECTS OF CERTAIN COSMETICS.

The following cases will serve, in some degree, to prove what deleterious effects are sometimes produced by these much vaunted remedies.

A gentleman, who deemed himself quite unfortunate from having red hair, being anxious to beautify himself by dying it black, had recourse to a pepara-

*It would seem that, in the time of Cheselden, white of egg was employed by a quack in London, for the purpose of giving firmness to his apparatus.

tion, which he had noticed was most highly recommended by some of the journals. The effect of the application was to induce an attack of erysipelas on the part, so severe that he was under medical treatment for a considerable time.

The dupe was determined to prosecute the tradesman; and, on the trial, MM. Chevalier and Marc were summoned to declare the composition of the cosmetic, which had been sold. It was found to consist of 30 parts of oxyde of calcium, 2½ parts of oxyde of lead, and a minute trace of silica.

A gentleman had consulted his physician in consequence of troublesome colic and constipation, to which he had been subject for some time. Certain circumstances led the physician to suspect that the abdominal symptoms might possibly be caused by a pommade, which his patient had been long in the habit of applying to his hands, for the purpose of making them delicately white! He requested M. Chevalier to analyze it. It was found to consist of 5 parts of cerate, and 3 of white carbonate of lead. The mere discontinuance of this cosmetic was sufficient to remove every unpleasant symptom.

Madamoiselle G. having read in one of the newspapers of the extraordinary effects of a certain application, Eau de Perse, in dying the hair of a black colour, purchased a phial of it for use. She was however much surprised to find that not only did those parts, to which the fluid was applied, became blackened, but also that various parts of her person acquired a similar discolouration.* M. Chevalier recommended to use first a solution of chloruret of sodium, and then one of ammonia, as a wash. The Eau de Perse was found upon analysis to consist of ten grains of nitrate of silver in an ounce of aromatic distilled water.

The fourth case was very similar to this one; but the symptoms were much more severe, in consequence of the much greater strength of the caustic solution.

The tradesman, who had vended the cosmetic, was prosecuted by the King's Advocate, and *condamné* by the court.—*La Lancette Française.*

Remarks.—Most of our readers are probablyaware that all the preparations sold to blacken the hair contain more or less of the nitrate of silver.—*Med. Chir. Rev.*

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ON THE LATE PREVALENCE OF VARIOLA IN LONDON AND IN PARIS.

Our metropolitan readers are no doubt well aware that, during the last six or seven months, there has been an unusual prevalence of the variolous contagion in and around London; and the same has been found to be the case, we believe, in numerous districts of the country.

From a short article in a recent number of one of the French medical journals, it seems that small-pox has existed to a very considerable extent in Paris also for some months past.

In almost every hospital numerous cases were observed; and in some of the districts or *arrondissements* of the metropolis, it appears to have been unusually fatal:—in one alone there were twenty-three deaths in the course of a month.

The disease was not confined to any particular age: but old people certainly were very rarely affected with the contagion.

Many of the patients had either been vaccinated, or had passed through the small-pox (we suppose from inoculation).

In not a few instances was the disease of a confluent character; and some cases proved very rapidly fatal from the affection of the throat and chest.

The precursory symptoms were very generally severe pains in the limbs, alternations of chills and flushings of heat, intense headache, and irritability of the stomach.

The epigastric pain however—so much insisted upon by Sydenham as one of the most pathognomonic premonitory signs of variola—was very frequently absent.

* Surely this must have been mere fancy; unless indeed some of the caustic liquor had been accidentally dropped upon the discoloured parts.

We cannot well believe that the application of the nitrate of silver to one part of the body should at all effect a remote part. The internal use of this salt is a very different thing; as, under such circumstances, it is no doubt absorbed into the system.

The eruption usually made its appearance on the second or third day; often it did not cease at this period, but continued with much severity, and became now complicated with a most troublesome angina. The inflammation of the throat and the congestion of the lungs were certainly the most troublesome and dangerous symptoms; and hence when these were at their *acmé*, the risk was the greatest.

In all the fortunate, although severe, cases, the pustules filled well, the face was enormously swollen, the fever was high, but the respiration, however uneasy, was not seriously distressed. On the other hand, in the fatal cases, the pustules remained low and imperfectly distended, the swelling of the features was often not great; but the breathing was much quickened from the beginning, and became more and more difficult, as the disease advanced.

A few cases proved very troublesome after the desiccation of the pustules had taken place, in consequence of numerous boils and circumscribed abscesses making their appearance on different parts of the limbs and body.

With respect to the treatment which was found to be most useful in this epidemic of variola, the cautious employment of blood-letting in the very early stage of the disease was certainly beneficial. It seemed to facilitate the eruption of the pustules, and also to promote their maturation.

The use of the lancet however in variola always requires much discretion, as we must never forget what expenditure, so to speak, of vital energy Nature has to undergo in the subsequent stages of the disease. When we are at all doubtful as to its employment, it is better to trust to the administration of emetics and nauseants to reduce any excessive pyrexia, which may be present at the beginning of the disease.

When the eruption has fairly taken place, and provided there are no unpleasant local complications present, the best therapeutic rule is *laisser faire in la Nature.*

The most critical period or stage of the disease is that of the suppuration of the pustules; the danger arising either from a deficiency of vital energy, or from a feverish excitement—often connected with some local mischief in the throat, lungs, &c., of the system. Certainly one of the most useful of remedies in this stage of variola is the application of blisters to the lower extremities—either to the thighs or to the legs. The exhibition of gentle aperients, with mild vegetable tonics, is generally useful towards the close of the disease.—*Bulletin Gen. de Therapeutique.*—Ibid.

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M. CHOMEL ON TARTAR EMETIC IN PNEUMONIA.

This eminently practical physician of the Hôtel-Dieu has not, it seems, so high an opinion of the tartar emetic practice in controlling thoracic inflammation, as many of his professional brethren in Paris. He frequently uses it; but only as a subsidiary remedy, after a decided impression has been made on the disease by blood-letting. With respect to its having any directly antiphlogistic or contra-stimulant properties, independently of the depression induced by nausea and by evacuation, M. Chomel professes himself to be very sceptical; and hence, of late years, he has discontinued the common usage of combining opium with it, for the purpose of inducing a *tolerance* of the antimonial. According to his views, its action is to be referred to an energetic revulsion upon the alimentary tube, and to the powerful compression of the lungs during the efforts of vomiting, aided by the nausea which precedes and follows these efforts.

The antimonial will always be found of most efficacy, when the first violence of the inflammatory attack is arrested, and when the disease indicates a tendency to remission or abatement.

Alluding to the excellent effects of intestinal derivation upon all choracic inflammations, M. Chomel takes the opportunity of strongly recommending castor oil as the safest and one of the most effectual purgatives, which can be used for this purpose.—*La Lancette Française.*—Ibid.

ON THE DISEASES OF OLD AGE.

The data, from which M. Prus has derived his conclusions, were obtained from the histories of 430 patients, who died at the Bicetre during the period of four years. It will be necessary, however, to deduct forty of these cases from our list, as the patients had not attained 60 years of age. The remaining 390 are arranged by M. Prus in the following manner:

149 died from diseases of the respiratory organs.
101 ——— diseases of the nervous centres and their coverings.
64 ——— diseases of the organs of circulation.
49 ——— diseases of the digestive tube.
8 ——— diseases of the liver and its appendages.
19 ——— diseases of various kinds.

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It has frequently been supposed that the most common diseases of old age are those of the abdomen. This idea is quite refuted by the preceding table; the cause of death is much more often in the chest and encephalon.

M. Prus then gives another table of those patients who were successfully treated during the same period of time, when the preceding fatal cases occurred. Of 685 cases, which were either cured or greatly relieved at the Bicetre.

216 were diseases of the respiratory organs.
151 ——— of the nervous centres.
144 ——— of the digestive tube.
54 ——— of the organs of circulation.
22 ——— of the skin.
98 ——— of various kinds.

According to this table, the stomachic and bowel affections were considerably more frequent than those of the circulatory system.

M. Prus, in alluding to the peculiarities of disease in old age, very forcibly dwells upon the frequent feebleness or defect of reaction in the diseased organs, and on the obscurity and uncertainty of diagnosis which are consequently induced.

Thus the lungs may pass into the state of grey induration, or the stomach may be the seat of cancerous degeneration, without the necessary existence of any well-marked symptoms during life. Even the heart itself, as Bichat remarked, may be most seriously altered by disease in old age, and yet perhaps not even a suspicion of this being the case may have been once excited during the life of the patient. This circumstance shows the high importance of a strict examination of the thoracic organs in aged patients, whether there be or be not any symptoms of cardiac disease.—*Archives Generales.*—Ibid.

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RESEARCHES ON MENSTRUATION.

M. Petrequin, one of the most intelligent contributors to the Bulletin Medical Belge, published lately a small work in which he has recorded the result of his enquiries on the above subject.

The first question he proposes for consideration is, at what age does the menstrual flux usually appear in our climate (France)? Two hundred and seventy-two cases have served him to draw up the following table, from which it appears that the earliest age is about ten years, and the latest about twenty-two years:—4 at 10 years of age; 10 at 11; 15 at 12; 33 at 13; 33 at 14; 45 at 15; 48 at 16; 32 at 17; 27 at 18; 12 at 19; 7 at 20; 5 at 21; 1 at 22.

M. Petrequin, therefore, fixes upon the period between 13 and 15 years of age, as that at which puberty generally occurs in France.

From his researches it appears, that the more tardy that the first appearance of menstruation is, the more apt is the function to be irregular and disordered afterwards.

The next question, which our author endeavours to solve, is, at what period

of life does the cessation of the catamenia usually take place? He fixes it at between the 35th and 55th years. It is well known that, in some females, it is prolonged considerably beyond the latter period. Thus Desormeaux has known it to continue to the 65th, Richerand to the 70th, and Gardien to the 75th year of life.* Occasionally the flow returns, after it has ceased for several years.

From the comparison of 60 cases, M. Petrequin states, that menstruation ceases between 35 and 40 years of age, in about one-eighth; between 40 and 45 years in one-quarter; between 45 and 50 in one-half; and between 50 and 55 in one-eighth of the whole.

We shall now briefly consider, whether the common notion that the epoch of life, at which the function of menstruation usually ceases, is really a very critical one to women, in reference to mortality.

M. Petrequin has not been able to satisfy himself on this topic from personal researches; he appeals, therefore, to the statements of preceding authors.

According to Muret, the period from the 40th to the 50th year of life is *not* more critical to women than the period from the 10th to the 20th year. M. Lupecq found that of 1,478 deaths in persons between 20 and 50 years of age there were 718 females and 760 males; and M. Benoiston states that, from the resnlt of his enquiries, it appears that the period of life between 40 and 50 years of age is in truth more critical for men than for women.

M. Lachaise has come to the same conclusion in his Medical Topography of Paris.

M. Finlayson states as the result of his numerous researches that, after the period of infancy, the life of women is, on the average, considerably more lengthened than that of men.

It is not to be denied that at the period of life, when the catamenia cease, there is a tendency in some women to the development of certain diseased actions; but then be it remembered at the same time that in others—as in those who have long suffered from excessive or irregular menstruation—there is a very marked improvement of the general health; the one set of cases may therefore be said to be counterbalanced by the other set.

A few hygienic precautions, such as the use of cooling aperitive medicines, the use of light food, the abstinence from venereal pleasures (which are apt, according to Desormeaux, to induce cancerous disease), and the occasional loss of a little blood, will lead most women safely through this often-dreaded period of life.

We may notice, *en passant*, that blindness from amaurosis is of frequent occurrence, when the catamenia cease to return.

With respect to the quantity of the catamenial secretion, we may probably state it at about from three to five ounces. It is usually more copious in Spring than in other seasons of the year; and there is reason to believe that the sexual passions, and also the aptitude to conceive, are greatest in the former season. M. Villermé has deduced, from the comparison of 13,903 cases of labour, that most conceptions take place in the months of April, May, and June.

The quantity of the catamenial discharge is very generally greater in women of a voluptuous than in those of a cold and less susceptible constitution.

It is an idle waste of time to endeavour to find out the cause of the monthly return of the catamenia. All that we can say is that it is a law of the system in the human female; just as the period of nine months is that of utero-gestation, or as certain plants flower in certain months and not in others.

The *why* of these phenomena is beyond our research; and he, who attempts to discover it, will only subject himself to the satire of another Moliere: *Opium facit dormire, quia est in illo virtus dormitiva.—Bulletin Medicale Belge.*—Ibid.

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RELATIONSHIP BETWEEN EPILEPSY AND APOPLEXY.

A gentleman in the legal profession, aged 58, who held an official situation where great mental labour was required, became affected with epileptic, or epi-

* The Belgian journals, a short time ago, mentioned the case of a woman giving birth to a child in her 70th year

leptiform fits, which usually came on early in the morning, before leaving bed, and exhibited convulsive struggles, generally with loss of consciousness for a short time, followed by sleep and lassitude. The next day he was usually fit for his mental labours, and experienced no deterioration of his intellectual powers. The attacks became gradually more frequent, and, for some time, returned pretty nearly at intervals of a fortnight, four o'clock in the morning being the hour of invasion. No medical man witnessed the attack, in consequence of the period of its occurrence. But the wife of the patient described these attacks accurately, and no other inference could be drawn but that they were epileptic. They had continued more than a year when the reporter saw him. There were no evidences of any cerebral lesion besides the fits above mentioned. He complained a little of his memory; but at 58 years of age, the memory begins to fail in most people. The digestive organs were attended to, counter-irritation to the nape of the neck, and small doses of the nitrate of silver were given for a few weeks; but as the attacks increased in frequency, rather than diminished, the nitrate was discontinued, and only ordinary aperients employed, with light diet, and temperance in drink. On Monday morning, the 21st May, at the usual hour—4 o'clock—he felt his usual attack coming on; but, alas! it was his last one. Instead of epilepsy, it proved to be a decided apoplexy, which terminated life, in about 36 hours, in despite of active treatment.

On dissection, the ventricles were found distended by a considerable quantity of clear water, evidently of long standing. The vascular system of the brain, but especially the venous, was remarkably congested throughout, but there was no rupture of vessels or effusion of blood. The brain itself, however, particularly about the crura cerebri, was in a state of ramollissement, so as to be incapable of dissection. This was still more especially the case in regard to the cerebellum, which was almost in a state of liquefaction, and would not bear handling.

Now it is not a little extraordinary that, with such a state of brain, this individual was able to use his intellectual powers, with scarcely any diminution, two or three days before his death! This puzzles our physiology and pathology. The case is also interesting, as showing how easily epilepsy may merge into apoplexy, and prove fatal.—*Ibid.*

SURGERY.

PENNSYLVANIA HOSPITAL.

EXTIRPATION OF THE PAROTID GLAND.

Wednesday, 19*th December*.—Dr. RANDOLPH entered the amphitheatre, and commenced as follows:—

Gentlemen,—We propose to perform an operation to-day, for the removal of a tumour, which we believe to involve the parotid gland. Inasmuch as this operation must necessarily be a tedious one, and consume a good deal of time, I shall detain you but for a few moments, in order to give you an account of the case. I have said to you, gentlemen, that we *believe* this tumour to involve the substance of the parotid gland. Upon this point, however, we do not give a positive opinion, because it sometimes happens that tumours form in the substance of the parotid gland, in consequence of an enlargement of a lymphatic gland, and attain some size, and yet admit of removal, leaving behind the parotid itself. At other times, a tumour may form exterior to the parotid, and attain a large size, and, by its compression upon the parotid, cause its partial absorption, so as to seem to occupy its precise situation. Judging from the feel and external appearance of this morbid growth, I am of opinion that it involves the parotid gland; still, for the reasons I have just given, we cannot decide this point positively, until after the operation.

The patient is a coloured man about fifty years of age, an inhabitant of the

southern part of the state of Delaware. The history which he gives of his case, is this:—He first perceived, about twelve months ago, a small tumour of the size of a marble, just anterior to the lobe of the left ear. The tumour at that time was moveable, and did not give him much pain; it continued to increase in size, and some months after he first noticed it, he showed it to a highly respectable medical gentleman, living in his neighbourhood, who advised its removal. The operation, however, was not performed, and the tumour has gone on increasing gradually in size up to the present time. He came to this city, and, through the politeness of Dr. Beasly, was placed under my charge. Since his admission into the hospital, ten days ago, the tumour has sensibly increased, according to the observation of Dr. Smith, myself, and other persons connected with the institution, and is now about the size of an orange. Now, as far as the operation is concerned, I would much prefer that the tumour had been stationary for some time, because, in that case, I might infer that the hardness and weight of the tumour would, by its compression, have obliterated some of the vessels supplying it with blood, so as to diminish the hemorrhage attending its removal. Inasmuch, however, as the tumour is still enlarging, it is probable that its blood-vessels are increased in size, so as to furnish it with a supply of blood adequate to its growth, and we may expect to find it in a highly vascular condition.

You are aware, gentlemen, that doubts have been expressed, whether the parotid gland has ever been completely and successfully extirpated from the living subject. The limits of my time will not permit me to enter into a prolonged argument upon this subject; but I must content myself with the simple statement, that to deny the fact of the extirpation of the parotid gland, is, in my opinion, to deny the testimony of some of the most respectable and distinguished authorities in anatomy and surgery. We have accounts of the extirpation of the parotid gland, which may be dated at least as far back as a century ago. Heister relates a case in which a diseased parotid gland was extirpated in the year 1733. Subsequently, several cases are reported by the older surgeons, in which the operation had been performed. I may mention the names of Siebold, Sourcrampe, Scultetus, Gooch, and Behr, all of whom have reported cases. Mr. Bell, in his "Essay on Tumours," states that he removed the parotid gland. More recently, Mr. Abernethy, in the seventh volume of the Medico-Chirurgical Transactions, relates a case in which Mr. Goodland, of Bury, removed the whole of the parotid gland, in September, 1815. In 1818, it was successfully removed by Mr. Carmichael, a surgeon of Dublin. A case is reported in 1824, in which Beclard, the late distinguished Professor of Anatomy in the "Ecole de Médicine," at Paris, asserts that the parotid gland was entirely removed: this patient died on the 15th day after the operation, from erysipelatous inflammation, and, upon dissection, it was satisfactorily proved that every particle of the gland was removed. Besides these cases, the operation has been performed in Europe by Gensoul of Lyons, Lisfranc of Paris, Sir Astley Cooper, and some others.

The diseased parotid gland was first successfully extirpated in this country by Professor George McClellan, of this city, in 1826:* since that time, he has twice removed it. The operation has also been performed by Professor Mott, and the late Dr. Bushe, of New York, by the late Professors Davidge and Smith, of Baltimore, and by Professors Dudley and N. R. Smith, of Lexington, Kentucky.

In the London Medical Gazette, for June last, a case is communicated by Sir James M'Grigor, in which Mr. Widmer, surgeon to the British forces at Toronto, Upper Canada, successfully extirpated this gland. Now, gentlemen, admitting that in some of these cases mistakes have been made, and that tumours resembling the parotid have been taken out, and not the gland itself, still, this objection cannot surely apply to *all* the cases; for we cannot suppose that the most learned and distinguished anatomists and surgeons in the world would be so ignorant as not to know the parotid gland when they saw it removed from its natural situation, and the place which it ought to occupy left empty and void.

* It is stated in Cooper's Surgical Dictionary, (American edition,) by Dr. Reese, the editor, that the parotid gland was extirpated by Dr. White, of Hudson, in 1808.—Eds.

I have been in the habit of stating in my lectures, for a number of years, that I believe in many instances a diseased parotid gland could be more easily removed than the natural one, for this reason: parts, in a state of tumefaction and scirrhous enlargement, frequently, by their compression, produce a partial absorption of the adjacent tissues; besides which, one of the characteristics of scirrhus, is to contract itself, so that the tumour isolates itself, in a measure, from its former connexions. I was led to this belief, by noticing the facility and quickness, with which I have been able, in some instances, to extirpate a scirrhous mammary gland, which, in its natural condition, would necessarily occupy a good deal of time, and be attended with some difficulty. In two or three instances, in performing this operation, after the first incisions, I have been able to raise up the diseased gland, and, with a very few strokes of the scalpel, separate it from its loose cellular connexions. In the report of the operation for the removal of the parotid gland, by Dr. N. R. Smith, I see that he expresses nearly the same sentiments.

I will now briefly state the manner in which I propose performing the operation. I shall make an incision commencing at the zygoma, and continue it down over the surface of the tumour, until it reaches the edge of the sterno-mastoid muscle,—and then a second incision, intersecting this at right angles. I shall next raise up the flaps, and dissect up the tumour from below. My object in doing this, is to cut down for the external carrotid artery, and endeavor to take it up just before it enters the gland, in the space between the edge of the stylo-hyoid muscle and the angle of the lower jaw. It is possible, however, as the tumour extends so low down, that it may be necessary to take up the common trunk of the carotid. In removing the tumour from its bed, between the mastoid process and the angle of the jaw, I shall use, as much as possible, the handle of the scalpel.

[Dr. RANDOLPH then proceeded to operate, in the presence of Drs. Coates, T. Harris, J. Rhea Barton, Norris, and Horner, besides several other highly respectable physicians and surgeons, and an unusually numerous class of students.

The patient was placed upon a table, his head inclined to the right side, and an incision made from just above the zygoma downward and forward over the whole extent of the tumour, to the edge of the sterno-mastoid muscle. A second incision was then made, which intersected this at right angles. Upon dissecting up the flaps, and raising the lower edge of the tumour, the facial artery was exposed, and it was judged advisable to secure it with a ligature. The adhesions were found to be so strong and close, that it was necessary to dissect the whole mass from its situation with the edge of the knife, as no separation could be effected with the handle of the scalpel. The tumour adhered so very firmly at its lower part to the angle of the jaw, and projected so far beyond it, that it was found impracticable to secure the external carotid artery at the place contemplated, and it was thought that the diseased mass could be more readily removed by separating it above, and then drawing it out. The dissection was accordingly continued from above downward, and, in doing this, it became necessary to secure the temporal and internal maxillary arteries, besides several others of smaller size, which bled with great freedom. The external jugular vein was also cut, and secured at both ends. In dividing the last bands which confined the tumour to its situation, the external carotid artery was cut, and poured out a large stream of blood; it was immediately secured with a ligature thrown round the artery by means of Dr. Physick's needle and forceps. A portion of the masseter muscle was so firmly attached to the diseased mass, as to render the removal of it necessary. The periosteum, also, covering a portion of the angle of the lower jaw, was absorbed, and the tumour adhered to the bone itself. The whole gland was finally separated, quite unbroken, and, when removed, the bare styloid process and the stylo-maxillary ligament were distinctly seen.

In consequence of the division of the portio dura, the operation was necessarily followed by paralysis of the muscles on that side of the face. It should be stated, however, that paralysis existed previous to the operation; and it is somewhat singular that it was not augmented by the division of the nerve.

The wound was closed by a few stitches of the interrupted suture, and a light dressing applied. The operation lasted fifty-nine minutes.

Upon a careful examination of the parts, after the operation, it was unanimously declared by the surgeons and anatomists present, that *the whole of the parotid gland was completely removed.*]

Case continued.—Evening. Patient complained but little; slight oozing from the wound; no fever; pulse good. Ordered gum water, sago, and fifty drops of laudanum.

20*th.* Has slept well; little pain; pulse eighty-four, full, and regular. Diet continued; an enema. *Evening.* Pulse full, slightly accelerated; no headache, or other bad symptom. Ten grains of Dover's powder.

21*st.* Has slept well; slight cough, which is in some degree kept up by the tightness of the bandage on the throat. Bowels opened by an injection this morning; pulse regular, eighty-four; tongue moist, slightly furred. Expression of countenance and spirits good. Ordered the soft parts of six stewed oysters; milk at night; soda biscuits.

23*d.* Wound dressed to-day; suppurating; slight inflammation around the parts. Cough better; pulse natural; tongue moist. Dressings renewed; diet continued.

24*th.* Up to this date, five days after the operation, no bad symptom; to-day, slight erysipelas on the face and ear; a little fever; pulse ninety-six, but regular. Wound suppurating. Poultice to wound, and soap liniment rubbed over the side of the face. Bowels opened by injection; Dover's powder.

25*th.* Symptoms good; three sutures removed; treatment continued.

26*th.* Erysipelas disappearing and wound suppurating freely and granulating; swelling of the face disappearing. One small ligature came away.

27*th.* Erysipelas nearly gone; other symptoms favourable; cerate to wound.

29*th.* Still improving. No paralysis except at the angle of the mouth. Two ligatures came away. Mucilage to wound.

31*st.* Wound healed at the corners; elsewhere granulating freely; parts perfectly healthy. A large ligature came away. Sits up in bed.

2*d.* Wound almost healed. General health excellent.—*Medical Examiner.*

SIR A. COOPER ON VARICOCELE OF THE SPERMATIC CORD.*

The indefatigable Sir Astley has communicated a good paper on varicocele in the last number of the Reports. He gives a full account of the complaint, and examines in detail its anatomy, symptoms, effects, and treatment. It is not perhaps necessary to follow the worthy and able Baronet through all his observations, which, however, we recommend to all our young, and to many of our old friends. We may cite his enumeration of the best marks by which we may discriminate varicocele from hernia.

The patient is desired to place himself in the recumbent posture; then the surgeon presses upon the spermatic cord, and raises the testes and swelling, and it disappears; he then places his fingers at the external abdominal ring, and directs the patient to rise; and if the swelling be varicose, it immediately reappears; but if it have been hernia, it cannot re-appear. Even pressure at the abdominal ring, without the patient returning to the erect position, will re-produce the swelling of the spermatic veins, by preventing the free return of the blood; but the pressure must not be sufficient to arrest the blood in the spermatic artery, or the veins will remain empty.

Sir Astley alludes to the ordinary remedies—suspension—cold bathing and evaporating lotions—the exciting of inflammation and thickening of the scrotum by blisters and means of that description—the drawing the scrotum through a ring and fixing it there—remedies useful in most cases, absolutely effectual in few or none. In some cases there is so much uneasiness and mental distress, that even amputation is demanded by the patient. Sir Astley relates a case of this description. Sir Astley speaks of ligature of the spermatic veins, but he speaks of it only to condemn it.

* Guy's Hospital Reports, No. VI.

"But, in my Work on the Testis, published in the year 1830, I have advised the removal of a portion of the scrotum, in the following words:—

'*The removal of a portion of the scrotum will lead to a dissolution of the veins of the spermatic cord; and it is an operation, in an extreme enlargement accompanied with pain, which might be tried with perfect safety, and is very likely to succeed.*'

I had, at that time, never performed the operation, and I therefore spoke of the probability of success only: but, aware of its being free from danger, and seeing that it would render the remaining portion of the scrotum a natural bandage, and that a great degree of relaxation of the scrotum also attended this complaint, and that such relaxed portion might be safely and effectually removed, I determined to take some opportunity of performing the operation.

Besides the advantage of making the scrotum, in its lessened state, a means of support, it must naturally occur, that the adhesion, excited by the operation, of the fascia which covers the cremaster, to the surrounding parts would produce a permanent support, and render a suspensory bandage unnecessary. It might be thought a painful operation; but it is not so, nor does it excite constitutional irritation.

The mode of performing it is as follows:—The patient being placed in the recumbent posture, the relaxed scrotum is drawn between the fingers; the testis is to be raised to the external ring by an assistant; and then the portion of the scrotum is removed by the knife or knife-scissors;—but I prefer the former. Any artery of the scrotum which bleeds is to be tied; and a suture is then made, to bring the edges of the diminished scrotum together. The patient should be kept for a few hours in the recumbent posture, to prevent any tendency to bleeding; and then a suspensory bag is to be applied, to press the testis upwards, and to glue the scrotum to the surface.

The only difficulty, in the operation of removing the scrotum by excision, is in ascertaining the proper quantity to be removed; but it adds but little to the pain if a second portion be taken away, if the first does not make sufficient pressure on the spermatic cord. It is of no use to remove a small portion of the scrotum, for from doing this I have failed. When the wound has healed, the varicocele is lessened, but not always entirely removed; but the pain and distressing sensations cease, if sufficient of the scrotum be removed.

In making the suture in the scrotum, its lower part is to be brought up towards the abdominal ring, to raise and support the testis; as does the suspensory sling when it is worn."

Sir Astley relates four cases, in which he, and one in which Mr. Key, performed the operation. All the cases were attended with very beneficial results. Sir Astley observes in conclusion:—

"I wish it to be recollected, that I only recommend the removal of a portion of the scrotum in those cases of spermatocele in which the patient suffers great local pain; in cases in which he is most urgent to have the swelling and deformity of the part removed; and more especially in those instances in which the function of digestion suffers, and there is a great degree of nervousness and of mental depression. For slighter cases, a suspensory bandage must be still recommended."—*Med. Chir. Rev.*

DR. GRAVES ON CHILBLAINS.

Many persons, especially children, suffer much from chilblains, although this troublesome affection is often met with in the most healthy constitutions; yet, when the disease proceeds to a very great extent and degree of intensity, and occurs with violence, where the exciting cause, exposure to changes of temperature, has not been sudden or remarkable, we may then conclude that the sufferer's diathesis is decidedly scrofulous. This affection ought consequently to excite the attention of parents; for although in general it is merely a local ailment, yet in some children it indicates a general weakness of the constitution, and in all occasions much pain and annoyance. Sir Benjamin Brodie, by his admirable observations on the nature and cure of corns, published in the 17th volume of the Medical Gazette, has shown that affections, vulgarly reputed to be beneath the dignity of the medical profession, may afford a legitimate and ample field for our

interference and assistance. In order to prevent the formation of chilblains, we must endeavour to protect the skin from the operation of the usual exciting cause of the disease, and, in addition to cautioning the children to avoid exposing their hands or feet to rapid transitions from cold to heat, we should endeavour to render the skin capable of bearing moderate changes of temperature with impunity. This is best effected by washing the hands several times a day, at first, with tepid and afterwards with cold water, mixed with a small portion of spirits or of *eau de Cologne*. Some parents do much injury by making their children wear flannel or woollen gloves, even in the house. Stimulating liquids, such as strong brine, have long been deservedly popular as preventives of chilblains, and were recommended by Dioscorides; but none of those usually employed seem to me as efficacious as one which I was the first to use, viz. a solution of sulphate of copper in water, in the proportion of ten grains to the ounce. This must be diligently applied to affected or suspected parts of the skin with a camel's hair pencil; and as soon as the moisture dries off, the skin should be well smeared over with spermaceti ointment. The sulphate of copper lotion may be applied two or three evenings in succession, until it has produced a manifest effect on the skin; it must be then discontinued for a few nights—again, however, to be resumed as soon as the natural soft and tender texture of the skin seems about to return. You must be careful to enjoin the application of the spermaceti after each use of the lotion. By this simple plan, commenced early in winter, many children, previously martyrs to chilblains, have been completely protected. It is probable that the nitrate of silver would answer equally well, did it not discolour the skin in so unseemly a way.—*Med. Gaz.*

DISLOCATION OF THE HUMERUS,

Attended with a grating Sensation on Motion, leading to the supposition that the case was complicated with Fracture.

BY WILLIAM LAWRENCE.

James Yarnsley, forty years of age, was admitted into the hospital, on the 23d of March, 1838, for an accident to the shoulder, which had occurred on the 21st. A cart, in which he was riding, was overturned; he was thrown violently to the ground, when the cart fell on him, and he remained under it for some time. The gentleman, who first examined the limb, considered that there was a fracture, and therefore recommended that he should be sent from the country, where the accident happened, to the hospital. They who first examined the patient on his arrival, entertained the opinion that there was fracture; and the case was accordingly mentioned to me as a dislocation of the shoulder with fracture. The dislocation was obvious enough, and it was soon ascertained that the humerus was not broken. A sensation like crepitus was perceived as distinctly as in a fracture, when the shoulder-joint was firmly grasped with one hand, and the arm moved with the other; also, when the upper end of the bone was raised by the hand passed under it in the axilla, the elbow being held by the other hand. The sensation appeared to me more like the hitch or catch which might be produced by moving the articular head of the bone over an irregular hard surface, than the sharp grating of broken bones; the symptom, however, was so strongly marked, as to lead to the opinion that the neck of the scapula was fractured. Never having seen a specimen of fractured neck of the scapula in any museum, and reflecting on the mode in which this portion of the bone is protected against external violence, I conclude that such an injury, if it ever happen at all, is extremely rare, and that it is the least likely to take place when the effect of the force has been spent in causing dislocation. As the existence of dislocation was unequivocal, while I doubted altogether respecting that of fracture, I deemed it advisable to make a cautious trial of extension, which I did on the 24th. When a moderate force had been applied, by two or three assistants pulling at the ends of a folded linen fastened above the elbow not more than five minutes, the bone went in, the mobility of the joint was restored, and there was no longer any crepitus or other indication of fracture.

The head of the humerus, when dislocated, may lie upon the subscapularis, or

between that muscle and the bone; or it may be placed in contact with the inferior costa of the scapula, near the glenoid cavity. In the two latter cases, the movement of the head over the bony surfaces, on which it rests, may impart a sensation closely resembling the crepitus of fracture. I remember a case of unreduced dislocation in this hospital, where the crepitus was so distinct that the injury was supposed to be fracture. The patient died: I do not recollect the details of the history, nor the cause of death. The head of the humerus was in contact with one of the ribs, the surface of which was bare.—*Ibid.*

CREOSOTE IN DEAFNESS.

BY J. HARRISON CURTIS.

One of the principal, and most common, causes of deafness is a deficiency of the secretion, from a want of action of the ceruminous glands. Many cases of loss of hearing which have been under my care, even when the disease has been of long standing, have been fairly referrible to this cause, and, on its removal, the deafness has disappeared; of course, in a longer or shorter time, according to the previous duration of the disease, and the severity of the primary cause of the inaction of the glands. When the meatus auditorius has been duly cleansed* and the orifices of the ducts have been, as it were, re-opened, by the removal of the diseased secretion by which they were occluded, a moderate stimulant is of essential service in restoring the glands to healthy action; but the cleansing is imperatively necessary, and no remedy will be of use until that operation has been properly performed. I generally employ a preparation consisting of half an ounce of ox-gall, mixed with a drachm of tincture of castor, or tincture of musk, with which a piece of cotton is moistened, and inserted into the meatus at night, to soften the hardened cerumen, the ear being syringed in the morning with warm water, to which one ounce of soap liniment and a little *eau de Cologne*, have been added. I occasionally substitute the solution of potash of the Pharmacopœia, with oil of almonds, for the preparation of ox-gall and castor, with equal advantage in dissolving the cerumen. In effecting this, it is necessary to be particular in the choice of a syringe. When this important object has been obtained, and the ducts and glands are in a fit state to be acted on by the stimulant, a solution of creosote in oil of almonds, I am led to believe, from experience, will be found to be of great advantage in inducing the ceruminous glands to resume their healthy action. The formula I use is as follows:—Take of

Creosote, one drachm;

Oil of almonds, four drachms. Mix; a little to be inserted into the meatus, night and morning, with a camel-hair brush.

I generally commence with a solution of this strength, occasionally gradually increasing the quantity of creosote employed, according to the effects produced. Cases, however, have occurred, as will be shown, in which this application has not been beneficial, until after the previous employment of blisters behind the ears, of an ointment made with tartarised antimony, or of other derivatives, which are required to abate any irritation to which the ear may be subjected. In cases of otorrhœa, where there is any pain or inflammation, its use is contra-indicated. Its application does not cause any pain or smarting sensation, the only sensible effect produced being a feeling of agreeable warmth.—*Lancet.*

ADMISSIONS INTO THE CHARITY HOSPITAL OF NEW ORLEANS.

We insert with pleasure the following circular sent to us by our friend Professor E. H. Barton, of New Orleans:—

To His Excellency:

The Board of Administrators of the Charity Hospital, beg leave to call the notice of your Excellency to the condition of the Institution committed to their charge, in order that you may invite the attention of the Legislature of your

* Physiologists are of opinion that there are not any muscular fibres in the meatus by which, under any circumstances, the cerumen is discharged; but it has been conjectured that its expulsion is effected by the motions of the lower jaw during mastication.

State, that they may afford such relief as in their wisdom and generosity may seem meet and becoming.

This Hospital was originally built and endowed by individual beneficence, and exclusively devoted to charitable purposes, to the indigent afflicted with disease, and has since derived large revenues from the same benevolent source. It has little or no independent revenue, and relies for its maintenance on the various grants from the liberality of the Legislature of this State, from various enactments productive of occasional revenue, (and particularly, and until lately, on the tax on gambling licenses, now abrogated), and from the various donations of individuals.

The rapidly increasing commercial connexions of New Orleans with her sister states and foreign countries, necessarily in an equal degree, increases the demand upon the charity of this Institution, and the expenses of its maintenance now amount to about $50,000 per amnum. While the State of Louisiana will not shrink from any proper call upon her humanity, and in the occasional epidemics to which she is still subject, these calls are very heavy, yet she relies upon the justice and proper feeling of her sister States in furnishing, in some degree, the means of relief *to their own citizens* who may be so unfortunate as to be afflicted with the double calamity of sickness and poverty, at a distance from those on whom they have stronger claims than upon us.

Upon reference to the subjoined statements, you will perceive that this State furnishes but about 1-30th of those contributed by the various States of the Union to its wards, and in the whole aggregate of its admittances, but about 1-90th! This ratio would be much greater, and the propriety of asking assistance would be more apparent, were the numerous thousands to whom relief is afforded in the form of "*Out door Patients*," similarly distributed as to country, of whom no record has been kept.

List of Admissions into the Charity Hospital of New Orleans, from the 1st day of January, 1830, unto the 1st day of July, 1838.

FOREIGN COUNTRIES.

	1830	1831	1832	1833	1834	1835	1836	1837	1838*	Total.
Ireland,	660	915	842	1206	2354	2476	1544	2142	490	12629
England,	251	314	222	343	440	443	378	410	110	2911
Germany,	116	187	103	378	503	575	262	607	173	2904
France,	142	199	172	253	262	378	202	270	82	1860
Scotland,	86	95	93	123	178	174	168	186	50	1153
Spain,	82	196	82	113	162	148	135	168	53	1139
Sweden,	65	25	26	56	83	45	70	82	19	471
Italy,	11	5	12	43	53	41	35	54	16	270
Canada,	8	24	16	24	36	67	42	8	13	238
Denmark,	12	19	8	13	38	44	42	41	9	226
Switzerland,	5	4	14	40	34	29	30	40	8	204
Prussia,	2	49	12	16	22	26	25	26	13	191
Holland,	12	10	16	16	11	42	34	26	10	177
West Indies,	5	9	16	15	27	38	28	31		169
Norway,	10	15	11	14	29	22	19	27	6	153
Mexico,	30	21	22	14	10	31	11	10		149
Portugal,	8	10	12	15	12	31	15	14	6	123
South America,	16	20	5	17	15	18	18	4	1	114
Poland,	12	7	6		3	40	16	14	6	104
Havana,	12	17	3	5	3	11	11	23	3	88
Hamburg,	10	14	8					10		42
Nova Scotia,	5	9	2			10			6	32
East Indies,	1	2	3	2	4	4	10	2		28
Africa,	3	5	4		6				6	23
Total,	1564	2169	1710	2706	4287	4593	3095	4197	1077	25398

* For the half year.

UNITED STATES.

	1830	1831	1832	1833	1834	1835	1836	1837	1838*	Total.
Pennsylvania, - - -	234	381	111	253	278	359	308	294	85	2303
New York, - - -	185	221	106	213	291	288	254	310	77	1945
Virginia, - - - -	131	135	71	108	149	147	142	156	47	1086
Massachusetts, - -	106	115	80	116	148	120	90	156	42	973
Maryland, - - - -	86	83	55	82	84	82	82	87	35	676
Kentucky, - - - -	69	67	23	62	93	113	45	96	39	607
Ohio, - - - - -	34	39	22	43	87	93	106	110	40	574
Tennessee, - - - -	42	45	25	39	69	68	81	70	11	450
Maine, - - - - -	51	57	40	52	52	51	58	58	24	443
North Carolina, - -	47	51	40	36	63	57	52	64	19	429
Louisiana, - - - -	51	59	40	29	49	30	62	51	10	381
New Jersey, - - -	43	44	31	36	38	51	34	41	18	336
South Carolina, - -	36	39	15	23	49	39	35	50	20	307
Connecticut, - - -	24	27	27	36	49	38	31	51	20	303
Indiana, - - - -	82	77	1	7	10	11	7	12	17	224
Rhode Island, - - -	34	37	20	23	25	14	15	28	16	212
New Hampshire, -	19	24	11	23	35	32	15	36	9	204
Vermont, - - - -	12	18	17	15	23	41	21	28	14	189
Missouri, - - - -	6	52	6	9	10	12	7	15	24	141
Delaware, - - - -	9	7	2	7	25	17	12	28	20	127
Georgia, - - - -	11	17	9	7	19	12	14	20	10	119
Illinois, - - - -	5	71	1	2	2	7	2	4	2	96
Columbia, - - - -	10	15	10	6	12	5	6	13	6	83
Mississippi, - - -		14	4	8	9	6	8	12	10	71
Alabama, - - - -	5	3	1	4	6	3	10	8	5	45
Michigan, - - - -	2	2	1	3		1	3	4	7	23
Florida, - - - -	2	1	1	1	1	2	3	2	1	14
Arkansas, - - - -		3	1	2	1	1		1		9
Total, - - -	1336	1704	771	1245	1677	1700	1503	1806	628	12370

Foreign, - -	25,398
United States,	12,370
	37,768

* For half year.

P. S. About 3000 out-door patients receive the aid of the Institution annually.

BIBLIOGRAPHY.

An Appeal to the People of Pennsylvania, on the Subject of an Asylum for the Insane Poor of the Commonwealth. Philadelphia, 1838. Pp. 24.

In our November number we adverted to the proposition for the erection of a lunatic asylum for the insane poor of Pennsylvania. Since then a town meeting has been held, and committees appointed to make the necessary inquiries and to prepare reports and queries, with a view of attracting public attention, and of eliciting the requisite information. The pamphlet, the title of which is given above, is evidence of progress and commendable industry on the part of those to whom a specific duty was delegated. We speak now of the mere fact of preparation and publication. But a more distinct notice is due to this 'Appeal,' and commendation merited for the manner in which the task of preparing it has been

executed. We did not require to be told that it was drawn up by a medical man. There are internal evidences of this fact in every page; consisting as they do, of an absence of idle declamation, and of mere appeal to public and individual sympathy by a recital of indiscriminated and exaggerated horrors. Instead of all this we have a succinct account of the proportion of the insane to the whole population in different countries of Europe, and, as far as could be furnished from unsatisfactory data, in the United States, and of course in the state of Pennsylvania. Next is given the ratio of the insane among the indigent classes. The necessity of an institution for the Insane Poor is advocated by a few clear and cogent arguments which show that the chances of cure are always in proportion to the recency of the attack; and hence the importance of an early regulated treatment, medical, physical, and moral, which is in vain to be looked for in the houses of the wealthy. With how little probability then can it be procured by the poor and the destitute. Nor do the country alms-houses present the requisite retreats, and contain the means necessary for recovery. Of this we may be well assured; since, as we learn from the 'Appeal,' that the Philadelphia Alms House at Blockley, that Pauper Palace as we might term it, erected at such enormous cost, is found to be inadequate for the treatment of the insane who are lodged in it. "As the building is at present arranged, the furious maniac is compelled to be placed in the same range of apartments with him whose reason is but slightly unsettled; and all attempts at proper classification have hitherto been futile. It is to be apprehended, indeed, that with every disposition on the part of the present board of managers to afford all facilities in their power, the arrangement of the building is such as to preclude any well-founded hope of satisfactory modification. Could this, indeed, be accomplished, the lunatic would still be in want of those advantages which a regulated asylum, with its various establishments for labour and amusement, is capable of affording."

Other impediments to a correct and successful treatment of the insane in the Philadelphia Alms House are stated in the 'Appeal.' Contrasted with this sombre picture, is a notice of the facilities provided for this class of unfortunates at the "Asylum for the Insane Poor in Vermont;" especially by the appendage of a farm of about fifty acres to the institution, and all the appliances in tools and implements of husbandry and gardening, for the use of the inmates. Reference is made to the success of the practice of Sir W. C. Ellis, (M. D.,) by the employment in various kinds of bodily labour and manufacture, of the insane poor in the institution which he superintends. Nor are American establishments of this nature, such as the Friends' Asylum, near Frankford; the Asylum for the Insane Poor, in Vermont; the M'Lane Asylum at Charlestown, Massachusetts; and the Asylum of Poor Lunatics at Worcester, in the same State; forgotten in the mention of examples of a better system.

The homage of deserved praise is offered to the memory of the celebrated Pinel, for his being the first to introduce salutary reforms in the moral management of insanity; at a time too, during the French Revolution, and among infuriate wretches out of doors, unpropitious for such changes. Instances are adduced of the entire success which attended a course of mildness to the most violent maniac, and which were evidence also of the high moral courage of Pinel.

The 'Appeal' concludes with a sketch of the institutions in other states of the Union for the insane poor, and whilst Pennsylvanians must derive pleasure from its perusal, at the good done elsewhere, they cannot but feel, also, strongly the necessity, on the score of humanity, certainly of philanthropy, to imitate their neighbours and co-sovereignties in this respect.

Having indicated the scope of the 'Appeal,' we recur to the first portion of it, in which the data are furnished that go to show the probable number of persons who would be applicants for a situation in a new asylum:

"As respects the precise ratio in this commonwealth we have no enumerations on which reliance can be placed; but evidence enough exists to show that it is considerable. In the single almshouse of the city of Philadelphia there are in the lunatic department at this time 174 patients—90 males and 84 females; and in other parts of the establishment 50 or 60, who are more or less fatuous; and as these are chiefly from the county of Philadelphia, we may presume that the proportion in the whole state is at least as great as in the neighbouring state of New-York; that is, as we have shown, 1 in 887 and a fraction, making about 1800 insane persons in Pennsylvania; but presuming that it is not higher than 1 in 1000, there must be in the state, of all classes, at least 1600 insane. If, then, we take again the state of New-York as a guide,—in which the proportion of idiots in 1835 was 1484 to 967, or three-fifths of the whole number,—the number of lunatics in Pennsylvania may be estimated at 600 or 700, and of idiots at 1000 or 1100,—and this is probably a low estimate."

After giving some estimates of the proportion of the insane poor abroad, and in New-York and Connecticut, in which latter the nearest approach to the actual facts of the case has been made, the committee in the 'Appeal' say, "we may infer that of the 600 or 700 lunatics—the presumed number in Pennsylvania, exclusive of idiots—from 400 to 500 might require the assistance which the contemplated charity is capable of affording."

In reference to the probable accommodations for the class of persons in question, in the new establishment, on the western side of the Schuylkill, belonging to the Pennyslvania Hospital, "it is presumed that not more than 50 poor insane persons can be received into it."

In a prefatory note, we see it mentioned that a sub-committee of the general committee appointed at the town meeting, prepared the present 'Appeal,' and as it was presented through the chairman of the former at a meeting of the latter, we may infer that this gentleman, Doctor Dunglison, was the author. We hope that this document will be extensively circulated, and if so, we are sure it will be generally read with pleasure and instruction.

A Treatise on the Diseases produced by Onanism, Masturbation, Self-Pollution, and other Excesses. By L DESLANDES, M. D., Member of the Royal Academy of Medicine at Paris, and other Learned Societies. Translated from the French, with many Additions. Boston, Otis, Broaders & Co. 1838. Pp. 258. 18mo.

We will not quarrel with the author about the title of his work, which is given with an extreme desire to prevent any doubt about the contents of its pages; but proceed at once to a general notice of its purport and character.

The volume is small; and yet it might have been made of still more reduced

dimensions without loss, had the author taken a little more pains to arrange and digest his materials. These are often introduced with needless detail and diffuseness, so as to confuse rather than enlighten. There are some points of doubtful physiology, and here and there an implied admission, if not distinct recommendation, of doubtful morality. The translator and editor has not done himself or author full justice, by his mixing up his own additions with the original text, and speaking of Dr. Deslandes in the body of what is his (Dr. D's) work, as one of the authors quoted.

Having thus briefly indicated the faults which have more immediately met our notice in the perusal of this volume, we can with the more readiness speak, as we now cheerfully do, of its general merits and usefulness. With adequate minuteness of specification of the nature, and extent, causes and effects of masturbation, it does not minister to impurity of thought or incite a prurient imagination. It is addressed chiefly, if not exclusively, to medical men, and gives a wide and comprehensive view of the habit, and its origin, and consequences, which can be properly appreciated by them alone. Hence reasoning takes the place of threats, medical and hygienic monitions of ethical discourses and of sermons; and the author, whether speaking himself to his medical brethren, or counselling these latter as to the conduct to be adopted towards the unfortunate patients, properly insists on their not losing sight of their true position, that by which they can win confidence and be listened to, viz:—as seekers of information respecting a diseased habit, which they propose to treat by professional means, both of a preventive and curative nature. Nor is the lesson confined to those who have recourse to unnatural processes for gratifying the venereal sense; it is properly and usefully extended to those who indulge to excess, and so far unnaturally, in the pleasures of the union of the sexes.

Of the two chapters of the first part of the work, the first treats of the *dangers attending venereal excesses;* and the second of the *circumstances which render the act of venery more or less injurious to the constitution and to health.* In the third chapter we have an enumeration of the *symptoms and diseases resulting from venereal excesses.*

Part second consists of two chapters; the first of which treats of the *means of preservation, with reference to venereal excesses;* and the second of the *mode of repairing the injury arising from venereal excesses.*

A great deal of interesting physiological matter is introduced, to illustrate, first, the influence of the genital organs in a state of rest on the animal economy; and, second, of these same organs in a state of action. Under the first head, the effects of emasculation and removal of the ovaries, and the state of childhood are contrasted with the full possession of the genital apparatus, and the development at puberty. The second question is answered by some details of the physical alterations and functional disorders consequent on the venereal act; but this branch of the subject is carried out in a subsequent part of the volume.

"The age at which the venereal power enters into full action, and when its exercise is attended with the least detriment, has been generally determined on two distinct grounds: first, the physical aptitude for sexual intercourse; second, the general state of the organization." On this point the author very justly remarks: "Although the physical aptitude for coition comes at the age of puberty, this fact proves nothing except that the genital organ can then be used." After some explanatory sentences, he says: "We, therefore, think ourselves justified in saying that, other things being equal, the period of life when the act of venery

is attended with the least trouble, is that which begins when the organization is completed, is perfected; and, as a reverse of this formula, we may say, that other things being equal, venereal enjoyments, anterior to this period, are more detrimental the less perfect the system."

The laws of growth and the period of the greatest development, based on some tables of Villermé are introduced, to show the injury to the body by any such perturbating cause as that of venery in early life. The influence of seasons is also stated, and the question of the propriety of coition during gestation and lactation are discussed.

Among the special symptoms caused by venereal excesses, are loss of flesh, which is one of the most constant symptoms, and is attended with a loss of strength. The countenance, especially of the onanist, "instead of the vermillion glow of health, is pale and without freshness, or of a yellowish, earthy, leaden, and livid tint; the lips lose their colour, a bluish circle surrounds the eyes, the eyelids are puffed out with œdema; the flesh is soft and flaccid; the pulse is small and feeble; upon the slightest motion, or during sleep, the forehead, chest, and palms of the hands are bathed with profuse perspiration: in some patients the hands and feet are œdematous: in short, the symptoms are those of general atony, which are attended with a slow hectic fever, denoting that the economy does not yield without reaction to the destructive disease." The disturbance and derangement of the digestive apparatus are also notably and painfully experienced. But, as might be expected from the known and immediate influence of the venereal act on the nervous system, we can readily believe that in this latter will be found the most numerous and distressing effects of excesses and unlicensed indulgence. Hypochondriasis, hysteria, chorea, epilepsy, apoplexy, and palsy, constitute part of the list of dire maladies induced or immediately excited, by onanism and immoderate or ill-timed coition. The memory and the intellectual faculties, in general, are enfeebled, and there are instances of complete idiocy, brought on by early and continued onanism, and of insanity from similar excesses later in life." Numerous, and some of them curious cases, illustrative of this part of the subject, are given in the volume before us. During the digestion of a full meal, or in old age, are circumstances which greatly increase the danger of apoplectic seizure in coition. "Deep and chronic lesions have been observed in the encephalon of onanists, much more frequently than acute diseases."

"Chronic alterations have frequently been found in the cerebellum of onanists. They have been mentioned by some as the cause, by others as the effect of onanism." Dr. Deslandes thinks "it would be impossible, in most of the cases of which we speak, to distinguish whether the cerebral affection or the masturbation had precedence. The only thing positively known is their coincidence; and this latter has appeared too frequently not to attract attention." He then proceeds to mention several instances of this coincidence, related by Gall, Combe, Serrurier, &c.

The irritation, and even the disorganization, on occasions, of the spinal marrow as an effect of the depraved habits in question, are passed in review; as manifested by sensations more or less acute along the vertebral column, also a feeling "of cold, of numbness, and formication in the limbs, particularly the lower extremities, constant trembling, or convulsive motions in these parts; a kind of tetanic stiffness; gradual debility of the lower half of the body; and finally paraplegia." Sometimes there are a curve of the spine and symptoms of myelitis. "The frequent occurrence of the symptoms mentioned in persons exhausted

by venereal excesses, has caused the terms *consumption*, phthisis dorsalis, and tabes dorsalis to be applied to the state which they often present."

"All authors agree in placing venereal excesses, and particularly those from masturbation, among the causes of amaurosis. They are so unanimous on this point that we shall cite no authorities."

The author remarks, not inappropriately: "it is not surprising that the act of venery which excites the nervous system so much—which has so marked an an action on the spinal marrow, has frequently predisposed to neuralgic or rheumatic pains, and has directly caused or increased this kind of pains." "Individuals who have braved the usual causes of rheumatism with impunity not unfrequently become vulnerable to these causes after venereal excesses." The influence of venereal indulgences predisposing to or actually exciting a paroxysm of gout is familiar to every medical reader.

Asthma, and diseases of the heart, and large vessels, are enumerated among the effects of onanism, which is moreover a frequent cause of pulmonary consumption. The danger to those predisposed to this disease, who indulge much in sexual intercourse, has been generally admitted.

Doctor Deslandes adopts a more enlarged and, it would seem to us, more accurate view of *satyriasis* and *nymphomania*, when he regards them as an unusual state of excitement, by which one is led to desire and to practise not only coition, but the act of venery in any mode. "In our view," continues the author, "male and female onanists are affected with satyriasis and nymphomania, as much as those to whom these terms are generally applied, that is to persons who are irresistibly impelled to coition, and resort, to satisfy their desires, to the most indecent actions, and to the most direct provocations."

Among the effects of masturbation and too frequent coition, is that troublesome and itself exhausting affection, *involuntary pollution* or *spermatorrhœa*. The division of involuntary pollutions into diurnal or nocturnal is not admitted by the author, who recognises that of convulsive spermatorrhœa, or ejaculation with contraction of the vesiculæ seminales, *levatores ani* and *bulbo-cavernosus* muscles, and that venery in which there is no effort, no ejaculation, but in which the semen flows into the urethra and escapes like the tears, the saliva, and bile.

"Every thing which specially excites the genital organs, as lascivious thoughts, voluptuous sights, riding, a soft and warm bed, &c., and also every thing which produces a more general excitement, on which these organs participate, as wines, liquors, coffee, spices, &c., are so many causes which combine with the direct provocations of the patient to multiply the causes by which he is excited."

Wichman is quoted in proof of the resemblance between individuals affected with diurnal pollution and those affected with phthisis pulmonalis. This author believes "that the effects of onanism would not be so pernicious, were it not for the diurnal pollution; that, without it, this shameful habit would not be followed with consumption, and other symptoms of phthisis. In fact, onanism does not always give rise to this pollution. If this were the case, the number of onanists affected with consumption would be very great."

Swediaur admits, in addition to the diurnal pollution described by Wichman, a blenorrhœa of the prostate gland, a morbid discharge of the mucus from this body, sometimes mingled with the fluid of the seminal vesicles. In some this discharge only occurs when they go to stool, and then owing to the hardened feces which, in passing through the rectum, press the prostate gland more firmly.

The discharge in this case is clear mucus, and of a particularly nauseous odour. Cullerrier describes two kinds of spermatorrhœa: one with the loss of semen and of the prostatic fluid; the other produced by constipation. Persons in whom this latter discharge takes place, are at first alarmed, and suppose themselves to be the subjects of seminal weakness. Quacks take advantage of their fears, and even persuade them that they are affected with an inveterate venereal disease.

Dr. Deslandes is inclined to believe, as well from the ejaculation of semen in cases of retention of urine, recorded by Lallemand, as for other reasons, that, in most cases of spermatorrhœa, there is not relaxation and weakness of the ejaculatory ducts, but irritation or inflammation of these parts.

Pains of the testicles, sometimes of a neuralgic nature, swelling of these organs, and varicocele are enumerated as occasional effects of onanism.

But females suffer, we learn, still more from excesses in masturbation and coition than males. By too frequent titillation, the clitoris may become enormously enlarged. The most frequent alteration, however, is an inflammation of the membrane which lines the vulva and vagina, and is evinced by redness, swelling, pain, and abundant leucorrhœal discharge. The complexion is altered, eyes suffused and red, and the whole frame is affected as if with marasmus. To this depraved habit have been referred certain cases of *metritis* and of *prolapsus uteri.*

The well known physiological fact, that the irritation kept up by too frequent coition is very often the cause of sterility, is repeated by Dr. Deslandes, who cites De Chanes, physician at Macon, whose statistical researches show that but few conceptions take place in the early months of marriage. Villermé has ascertained the same to be true in the early days, and even the early weeks after marriage. Hence this learned physician regards the fecundity from copulations to be inversely to their frequency.

The *second part* of the work before us gives, as already stated, *rules for the prevention and treatment of venereal excesses.* After some notice of the circumstances which may induce suspicion of a child or young person indulging in this diseased habit, the author proceeds to speak of the innate and acquired causes of venereal excitement, and of the rules of prevention connected with them. This leads to an inquiry into the probable function of the cerebellum, and the introduction of an additional number of illustrative and confirmatory facts of the influence of this organ to those already mentioned in the first part of the volume.

In consequence of Gall's opininion on the functions of the cerebellum, as an exciter of venereal desires, many authors, among whom may be mentioned Chauffard, Voisin, and Londe, have made applications directly in the region of the cerebellum.

The connection between the spinal marrow and the genital organs has been already adverted to, and an inference is thence drawn in favour of applications to the spine in cases of masturbation. Considering the erectile tissue as the seat of high irritation and habitual afflux in persons under the dominion of this vice, blood-letting in vigorous subjects, and leeches and cups around the genital organs have been recommended; also lotions, and cold applications, and cold hip baths. Sainte Marie recommends, that the genital organs of individuals affected with spermatorrhœa should be covered with bladders of pounded ice, which should be removed as often as it melts. Excision of some portion of the erectile

tissue has been advised and practised, for the cure of the disease of onanism; and cures are on record in which the removal of the clitoris has had the desired effect.

Irritation of the lower part of the rectum, as by ascarides, or even hæmorrhoids, may prove to be an exciter of the contiguous prostate *vesiculæ seminales* and of the venereal appetite. The cure in such cases is obvious. Any direct irritation of the mucous surfaces by retention on them of dried mucus or of other fluids should be carefully removed, and its return prevented by free and regular ablution of the parts, and to be extended also along the perineum to the anus, and up the sacrum and lumbar region. Without, of course, specifying a reason for it to children, they ought to be enjoined to attend, themselves, to practising at least daily these ablutions. Enemeta of cold water are, on occasions, decidedly serviceable as curative, though they may not have been used as preventive means.

Extirpation of the ovaries and testicles has been practised, though rarely, to allay and prevent the recurrence of salacious desires. Origen mutilated himself in order to be saved from the temptation of an ardent temperament and strong feelings in this way.

The season is to be taken into account, in our advice for the treatment of onanism, and greater vigilance in guarding against its returns. Spring is the time in which there is most danger to those predisposed to the vice of onanism. An artificial climate and artificial life, such as are found in cities, will tend to develop sensibility and excite it to premature and exhausting display.

The kind and fashion of clothing is of importance. It should be loose about the pelvis and thighs, and the irritation of woollen in this region should be withheld.

For the prevention and cure of onanism, and of inordinate venereal appetite, a regulated diet, from which wines, malt liquors, ardent spirits, coffee, spices, and salt meats, and otherwise seasoned dishes should be carefully excluded. On the other hand, an insufficient diet, as of crude vegetables and fruits, fatty matters, &c., will irritate the alimentary canal, and, by sympathy, the genito-urinary organs, and contribute to venereal excitement.

An active life, in which full bodily exercise is taken, especially in the open air, to the extent of producing fatigue, is the best means of prevention and cure of onanism. Add to this, regular hours of sleep, early rising, and the use of a hair mattress in place of a feather bed, and the process of ablution already mentioned, and we shall have made great advances towards the entire restoration of our patients, or what is more satisfactory, their protection against the evils of the yet innocent youth.

Dr. Deslandes cautions against company, and the free social intercourse between the sexes. But, a history of the most numerous and the worst cases of onanism will show that this morbid habit has been contracted and persevered in by persons living in comparative seclusion, and in which the separation of the sexes had been complete. Solitude has been declared by that sturdy moralist, Johnson, to be the nurse of the prurient passions, and observation will show that he is right.

Bandages and other mechanical contrivances are mentioned by the author as physical means to prevent the performance of the act; and occasionally, when had recourse to with the consent of the patient, they have been found serviceable.

The second and concluding chapter is on the *Modes of repairing the Injuries arising from Venereal Excesses.*—We need not repeat the advice and precautions given in it, as they are such as would be readily indicated by a knowledge of sound hygiene.

An Appendix is added by the American editor, consisting of an article extracted from the *Boston Medical and Surgical Journal*, in which the writer informs us that the pernicious and debasing habit of masturbation is a more common and extensive evil with youth of both sexes, than is usually supposed. He then goes on to specify the disorders induced by the habit, and gives cases in which it was practised with most deleterious results.

We ought to mention, in conclusion, that there are few diagnostic symptoms of this depraved habit, and of the diseases which would prove them to be its direct product. We are not, from what Dr. Deslandes narrates, to infer that any one of the diseases, which he enumerates, is, peculiarly or exclusively, a disease from onanism; but only, that it may have, as it has had, this latter for an occasional cause. Intense study, protracted anxiety, diarrhœa, leucorrhœa, diseased kidney and bladder, frequent loss of sleep, the use of opium and other narcotics, will give an expression of countenance, and an air of general lassitude, closely resembling the physiognomy of onanism. So, also, marasmus and muscular feebleness, abnormal sensations, and various disturbances of the nervous system, will acknowledge causes entirely foreign from the habit in question. Still, we ought not to shut our eyes to the fact, that this last may at times be recognised as a morbid cause, itself a disease, to the elucidation of which the work of Dr. Deslandes contributes, not a little, at the same time that it furnishes no small addition of collateral instructive details in physiology and hygiene.

A System of Anatomy for the Use of Students of Medicine. By CASPAR WISTAR, M.D., late Professor of Anatomy in the University of Pennsylvania. With Notes and Additions. By WILLIAM E. HORNER, M.D., Professor of Anatomy, in the University of Pennsylvania. Seventh edition, entirely remodelled and illustrated by numerous Engravings. By J. PANCOAST. M.D., Lecturer on Anatomy and Surgery, one of the Surgeons of the Pennsylvania Hospital, Fellow of the Philadelphia College of Physicians, &c. In two volumes, 8vo. pp. 491 & 560. Philadelphia: Thomas, Cowperthwait & Co.

IT is not often that the elongation of the original title of a work, by the announcement of the names of its editors, and of their additions, gives so correct an idea of the enhancement of value as in the case of Dr. Pancoast's edition of Wistar's Anatomy, with the previously added notes by Professor Horner. Dr. Wistar was a delightful lecturer; but by no means correspondingly lucid or forcible as a writer. And we well remember more than one of our fellow students of the quizzing club, in the evening, taking some liberties with the style of the author, whom a few hours before they had listened to with unmitigated pleasure and admiration, as to an oracle uttering the words of wisdom in honied accents. We have a certain feeling of gratitude for Wistar's Anatomy, in its original form, without a single plate or embellishment, as sent forth by its author in the second edition, on account of its companionship with us during the period of our winter studies at the University, and not seldom in the dissecting room. But this does not suppress our admiration at the copiousness of added matter, and the numer-

ous illustrations by engravings, of all the systems,—osseous, muscular, nervous, &c.—and of the several organs, including views of their peculiar structure and dominant tissues. In harmony with all this are the paper and letter-press, for which we, in the name of those who will hereafter peruse this work, offer the expression of our thanks to its liberal publishers. A book well got up, according to the trade phrase, is a positive benefit to the literary public, independent of its intrinsic merit, since it enables them to appreciate, and even to understand this latter better than could be possible if the same words found their abiding place in minute letters, imprinted on coarse whity-brown paper. We are greatly deceived, also, if, even in a pecuniary point of view, and supposing all laudable ambition to be wanting, publishers do not begin to see that their interests are in accordance with the requirements of taste in this matter.

The most obvious and the largest additions, made by Dr. Pancoast, are in the department of General Anatomy, and especially of Splanchnology. The greatest innovation, and, at the same time, as it seems to us, undoubted improvement, is to be found in the editor's two entire chapters; one on the general anatomy of the Nervous System, and one on the special description of the Brain and Spinal Marrow. In the latter, he exhibits the organs in the true and only instructive manner, viz. from below upwards, in the order of the development and the direction of their functions. Suitable materials in the execution of the chief part of his labour have been procured from the most recent writers on the subject, including Solly and Grainger; and the necessary plates and diagrams are introduced for the better understanding of the text.

But we must apprise our readers, that, throughout the whole work, the industry and discernment of Dr. Pancoast are visible, in the enlarged descriptions of tissue and structure, strengthened and elucidated by references to the best authorities, English, French, and German.

Brief Account of an Ophthalmic Hospital at Macao, during the years 1827, 28, 29, 30, 31 *and* 32. Canton, China. Pp. 56.

The Seventh Quarterly Report of the Ophthalmic Hospital at Canton, for the term ending on the 31st of December, 1837. By the Rev. Peter Parker, M.D.

Chinese Repository. Vol. IV. No. 10, February, 1836, Art. III; and Vol. VII. Art. V. November, 1836.

The documents now on our table, with the above titles, exhibit ample proof of the beneficent operation and influence of the healing art, as practised by English and American surgeons in China, on the people of that country; and furnish of themselves just ground for belief in the success of a more extended plan, such as that advocated and supported by the Medical Missionary Society in China.

The pamphlet, which stands at the head of our list, is written by 'A Philanthropist,' who, after a residence of nearly thirty-six years in China, may be considered good authority on the matters of which he treats. He bears testimony, corroborated if need be by other persons, to the fact of Mr. Colledge having been the first to establish, at first at his own expense, and subsequently by the aid of voluntary donations, the first institution in China for the relief of the indigent natives. In the period of five years, between 1827 and 1832, four thousand Chinese sought aid from this institution; and among them many have been

restored to sight. The more opulent and respectable classes of the people, in the last three years, added their names to the list of subscribers; and by giving the hospital the sanction of their support, much enlarged the circle of its usefulness. The East India Company has written of it in terms of approbation, and when applied to has liberally supplied it with medicines. It has been well said by Mr. Colledge: "Independently of the practical benefits conferred on suffering humanity, it is most desirable that the enlightened nation to which I belong, should be known in this country as possessing other characteristics than those attaching to us solely as merchants and adventurers. As charitably anxious to relieve the distresses of our fellow-creatures, we may be remembered when the record of our other connections with China has passed away." To the same purport is a prediction of the author of the pamphlet before us, when "he sees, in anticipation, the introduction of vaccination into China by Dr. Pearson,* and on the operations at the Ophthalmic Institution, the fountain whence will spring the peaceable, gentle, and humane influence that will open the Chinese empire to free and friendly intercourse with Europeans."

The following incident evinces the salutary influence which kindness and substantial services have already begun to exert in mitigating the bigotted prejudices of the Chinese against the measures and improvements of foreigners:

"The vigilance and steadiness of the proprietor in enforcing the rules he had laid down for the institution, and keeping subordination among the inmates, together with his scientific and professional attentions to the sick, had for a long period saved the infirmary from any event of an alarming nature. Yet in course of time, an aged Chinese who had been admitted, while conversing with Mr. Colledge, suddenly fell and expired. This circumstance was most unexpected and alarming, owing to the prejudices of the Chinese and the severity of their laws. However, Mr. Colledge, with great presence of mind, immediately locked the door of the room where the deceased lay, and taking the key with him, sent and informed the tsotang (a Chinese magistrate) of the circumstance: this officer received the information with good feeling, and having satisfied himself concerning the circumstances of the death, evinced no desire either to extort money or make difficulties.

"It is likewise worthy of remark, that none of the patients left the infirmary in consequence of this event, although they were apprized of Mr. Colledge having invited the tsotang to take cognizance of it; on the contrary, every inmate and the hospital was then full, volunteered to give evidence of the good treatment the deceased had received. And two of the convalescent patients accompanied the corpse to its native village, and returned after the interment."

From many letters of thanks and gratitude of the patients who were restored to sight by the skill of Mr. Colledge, we select the following:

"Letter XI.—Knocks head and thanks the great English doctor. Venerable gentleman! May your groves of almond trees be abundant in spring, and the orange trees make the water of your well fragrant; as heretofore may you be made manifest to the world, as illustrious and brilliant, and as a most profound and skillful doctor. I myself arrived at Macao last year, blind in both eyes; I have to thank you, venerable Sir, for having, by your excellent methods, cured me perfectly. Your goodness is lofty as a hill, your virtue deep as the sea; therefore all my family will express their gratitude for your new creating goodness. Now I am desirous of returning home; your profound kindness it is impossible for me to requite; I feel extremely ashamed of myself for it. Again I trust that you, venerable Sir, will kindly feel compassion for me. Moreover, morning and evening you supplied me with fire-wood and water.

* The predecessor of Dr. Colledge as surgeon to the East India Company servants in China.

This adds to the shame I feel. I am grateful for your favours, and shall think of them without ceasing. Moreover, I am certain that since you have been a benefactor to the world, and your good government is spread abroad, heaven must surely grant you a long life, and you will enjoy every happiness. I return to my mean province. Your illustrious name, venerable sir, shall extend to all time; during a thousand ages it shall not decay. I return thanks for your great kindnesses; inexhaustible are my words to sound your fame, and to express my thanks. I wish you everlasting tranquillity.

"Presented to the great English doctor, and noble gentleman; in the 11th year of Taoukwang; by Ho Shuh, of the district of Chaougan, in the department of Changchoo in Fuhkeen; who knocks head and presents thanks."

The example thus so worthily set by Mr. Colledge at Macao, has been successfully followed by the Rev. Peter Parker, M.D., at Canton. This gentleman went out to China as a missionary, under the auspices of the American Board of Foreign Missions. At Canton he soon discovered that he could better advance the cause of his Master by the active discharge of his medical rather than by the forms of pastoral duties; and accordingly, encouraged by the example and advice of Mr. Colledge, he opened an Ophthalmic Hospital for the benefit of the natives. In the Chinese Repository for February, 1836, we have the first quarterly report of this institution:

"Encouraged by the success of a dispensary at Singapore for the benefit of the Chinese, where, from the 1st of January, 1835, to the following August, more than one thousand were received, it was resolved, on my return to Canton, to open a similar institution here. The successful experiments made by doctors Pearson, Colledge, and others, both at Canton and Macao, left no doubt of the feelings with which the Chinese would welcome such an attempt. After some delay, the factory No. 7 in Fungtae hong was rented of Howqua, the senior member of the cohong, at $500 per annum. Its retired situation, and direct communication with the street, so that patients could come and go without annoying foreigners by passing through their hongs, or excite the observation of natives by being seen to resort to a foreigner's house, rendered it a most suitable place for the purpose. Besides a large room in the second story, where two hundred may be comfortably seated and prescribed for, the house can afford temporary lodgings for at least forty patients. The dense population of Canton rendered it probable that a single class of diseases would furnish as many applicants as could be treated and accommodated; however, it was designed to admit exceptions in cases of peculiar interest and promise. Diseases of the eye were selected as those the most common in China; and being a class in which the native practitioners are most impotent, the cures, it was supposed, would be as much appreciated as any other. The anticipation that a single class of diseases would furnish full employment for one physician was soon realized, and patients in great numbers have been sent away because no more could be received at that time. As will appear from the report, a case of peculiar interest directed my attention to the ear, and this fact was construed by many into a tacit consent to treat them for maladies of that organ. The dumb have also applied for aid."

As part of a history of clinical surgery, the following account is not without interest:

"The regulations of the hospital are few and simple. The porter is furnished with slips of bamboo, which are numbered both in English and Chinese. One of these is a passport to the room above, where the patients are treated in the order of their arrival. The name of each new patient, the disease, number (reckoning from the opening of the hospital), time of admission, &c., are recorded. A card containing these particulars is given to the patient, who retains it until discharged from the hospital,—it always entitling the bearer to one of the slips of bamboo from the porter. The prescription is written on a slip of

paper, and this, being filed in the order of its number, as soon as the patient again presents his card, is referred to, the previous treatment seen, and new directions are added. In this way about two hundred have been prescribed for in a day. Thursdays are set apart for operations for cataracts, entropia, pterygia, and other surgical cases. Difficulty was anticipated in receiving females as house patients, it being regarded illegal for a female to enter the foreign factories; but the difficulty has proved more imaginary than real. Those whose cases required them to remain, have been attended to some responsible relatives,—wives by their husbands, mothers by their sons, daughters by their brothers; and it has been truly gratifying to see the vigilance with which these relative duties have been performed. The more wealthy have been attended by two, three, or four servants, and have provided for themselves. Those who were unable to meet the expense have had their board gratuitously. At first, new patients were received daily, until they came in such numbers that they could not all be treated, and it became necessary to fix on certain days for admission. The total number of patients from the 4th of November to the 4th of February was nine hundred and twenty-five, exclusive of several who, requiring but a single prescription, were not enrolled. The aggregate number of males is six hundred and fifty-five, of females two hundred and seventy."

In a period of two years from its origin, 4575 patients had been received, 1225 of whom were admitted during the last quarter. The expenses for the year ending December 31st, 1837, were $1692 and 24 cents.

Among the cases of general surgery, we find the following recorded:

"May 1st. *Artificial Joint of the Forearm.* Chay Ahing, aged 27, of Canton. Eleven months ago he fractured the radius and ulna of his right arm. An artificial joint had been formed, which admitted inward motion to an angle of perhaps 60°: it was without pains or tumefaction. On the 27th May, the ends of the fractured bones were grated upon each other for some minutes. The arm was then extended and the bones brought into their proper place, and confined by splints and a roller. The following night the patient complained of much pain, and urged the removal of the splints. They were continued, however, for three days, when, to his great delight, the bones were united and the arm was straight. Short splints were then substituted, leaving the hand and wrist free. These were worn two months more. The man has now a useful right arm."

As a *pendant* to the letter of thanks and gratitude to Mr. Colledge, we subjoin the following missive in a similar oriental strain to Dr. Parker. The patient was a female, who had suffered from a sarcomatous tumour, pendulous from the che chin and larynx:

"On the 14th October," says Dr. Parker, "her grandfather returned to inform me of her health, bringing some trifling presents, with the following note accompanying them:

"The autumnal marigold emits its fragrance and reflects its fresh tints, whilst I bring some trifling articles to repay your kindness, for having, by your deep skill, restored my grand-daughter to health. May your name, sir, be transmitted to posterity for a thousand ages, and may the benefits bestowed last ten thousand years! My whole family join with me in wishing you the enjoyment of happiness, and that you may be permitted, by your extraordinary practice, to assist and protect mankind. I beg you will receive this present with a smile. Yung Yute of Hwa heën, knocks his head and pays his respects."

MR. COMBE'S LECTURES IN PHILADELPHIA.

Our expectations that Mr. Combe would be listened to by a large and intelligent assemblage, during the delivery of his Lectures on Phrenology in this city, have been fully realized. The number of persons present at his Introductory, which

is an integral part of the course, was four hundred and forty-one, and subsequently exceeded five hundred. On one occasion, his eleventh lecture, the class amounted to five hundred and ninety-four, and since then has been steadily between five and six hundred. These sheets will have gone to press before the conclusion of his course; but we are safe in saying that the interest felt and evinced, in unremitted and unwearied attention by his class, will continue unabated to the close.

Mr. Combe, without even pretending to any of the graces of elocution, or evincing much fluency of speech, contrives, by his clear and distinct enunciation of the principles of Phrenology, and of the solution which this science gives of human nature and human actions, to maintain, during a period of two hours, with an interval of only five minutes between them, continued interest in the minds of his hearers. It would be difficult, within the compass of sixteen lectures, to convey with such force and point so large an amount of knowledge of the structure, organization, and functions of the brain, and of the several faculties of the mind, manifested through these latter, together with an available and practicable application of the knowledge thus inculcated to the purposes of ethics, intellectual philosophy, education, jurisprudence, and the treatment of mental alienation. He illustrates his leading propositions by numerous and apt details, anecdotal and otherwise;—thus happily appealing both to the sentiments and to the knowing and reflecting faculties of his auditors.

Many persons, of both sexes, after hearing Mr. Combe's lectures in this city will be disposed to join in the opinion expressed by Mr. William Fraser, printer, Edinburgh, as follows: "With regard to the system of Mental Philosophy founded on Phrenology, I have no hesitation in saying, if we may judge from its leading principles, being almost intuitively comprehended by the high and the low, the learned and the unlearned, and from its being practically applicable to all the purposes of life, as well those of the most orthodox divine as of the humblest artisan; that there can be little doubt of its being the true philosophy of mind, is, at all events, vastly superior to any system hitherto adopted."

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MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.

By a catalogue of the students attending lectures in this institution, during the session of 1838–39, we learn that the whole number is 157, of whom 126 are of South Carolina. The Medical Faculty, we need not say, is full and efficient.

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DEATH OF DOCTOR BROUSSAIS.

Broussais, who so long occupied a conspicuous place in the practice and literature of medicine, has paid the common debt of our nature. He died on the 18th November last, at his country-seat, at Vitry, a short distance from Paris, within a few days of the completion of his sixty-sixth year.

We must defer for a future occasion an account of the distinctive merits and characteristic traits of this eminent man.

THE ECLECTIC

JOURNAL OF MEDICINE.

Vol. III. MARCH, 1839. No. 5.

ON THE INFLUENCE OF CLIMATE ON MAN.*

The author of the book of which we are now about to present a condensed analysis to our readers, originally intended it to form only a part of a much more extended work, entitled, *Histoire naturelle et Philosophique de l'Homme.* But discovering, as he proceeded, the great importance connected with such a subject as the influence of climate on man, on the production of those diseases to which he is obnoxious, as well as on the development of his intelligence, he saw that so interesting and extensive a question could not be discussed adequately or satisfactorily as a mere episode, and so determined to devote a separate volume to it.

In ordinary parlance *climate* signifies merely the temperature of a region. Medical and philosophical writers in general however give a much less restricted signification to this term. Hippocrates, in his treatise *de aere, aquis, et locis*, attributes the effects of which he intends to give an account not merely to the temperature of the air, but to all its other combined qualities; not only to the degree of latitude of the soil, but to its nature, to that of its productions, and to that of the waters with which it is irrigated. Climate embraces generally the aggregate of all the physical circumstances connected with each country; in itself it constitutes this aggregate, and all the characteristic features by which different countries are distinguished, enter into the idea which we should form of climate.

"To observe," says Professor Rostan, "the simultaneous effects of light, heat, electricity, of the winds, &c., on the organic productions of the different zones of the earth, to explore the nature of this earth, to deduce from this knowledge the influence which they exercise on the physical and moral state of man, such is the wide field which climates present to our investigation." Our author defines the signification of the term climate "the aggregate of all the external, physical, and natural circumstances attached to each locality in their relation to organized beings." For convenience he intends to adopt the division of climates according to the temperature peculiar to each country into three great classes, into *warm* (chauds), *cold*, and *temperate climates.* This distinction he prefers to that of Polybius, which has been adopted by some modern writers, into warm and dry climates, warm and moist, cold and dry, cold and moist. Whatever classification of climates be adopted, it will inevitably be incomplete and defective, in as much as certain points separated arbitrarily will become confounded together by imperceptible shades.

Did the phenomenon of heat depend solely on the position of the sun with respect to the countries which it illumines, the division would be absolute, and capable of mathematical precision. But a multitude of circumstances, some known, others unknown, cause a variation in the degrees of temperature, and modify the power of the solar rays in countries which are very near each other. The most simple observation shows us that at certain heights eternal snows prevail, and that in general the heat increases according as the country becomes less elevated. The limit of ice and snows upon mountains varies in proportion

* De l'Influence des Climats sur l'Homme. Par P. Foissac, Docteur en Medecine de la Faculte de Paris. A Paris, 1837.

On the Influence of Climate on Man. By P. Foissac, M.D.

Et plaga cœli non solum ad robur corporum, sed etiam animorum facit.

Climate contributes to the strength not only of the body, but also to that of the mind.

to the latitude; under the Equator they are perpetual only at 4,800 metres above the level of the sea, whilst at 65° they become so at 1,500 metres. The way in which a locality is exposed also produces great varieties in its temperature, and the direction of mountains has no less influence.

Every climate is again modified according as the air is calm, or according to the nature of the winds which blow over it. Siberia is colder than other countries of Norway and Russia which are as northern, but happen to be protected by mountains from the winds of the frozen ocean. The particular nature of the soil, its cultivation, productions, and the proper temperature of the globe, are so many modifying causes. Thus dry sands increase the heat; to this cause we must attribute in a great measure the excessive temperature of the deserts of Arabia and of the centre of Africa; whilst on the contrary, clayey and saline soils cool the atmosphere, as we observe in the environs of Astracan, and in several other countries. Cultivation has in general the effect of moderating extreme climates. Germany, which was very cold in Cæsar's time, is now one of the most temperate countries of Europe.

The proper temperature of the globe is one of the most obscure points of geology. Mr. Fourier has proved that the heat increases in the ratio of the depth of the strata of the earth, and he has determined with precision the measure of this increase. According to him the solar caloric penetrates by decreasing degrees into the bowels of the earth; it is compensated by an equal quantity of central caloric, which is lost at the Poles. The temperature of the Poles is little inferior to that of the planetary spaces, which is 40° below the freezing point; such also would be that of the earth, if the sun ceased to illuminate it by his rays. Thus the heat on the surface of the globe is regulated by the solar influence, and a change would be necessary in the astronomical relations of our planet, and of the body around which it gravitates, in order perceptibly to modify the return of the seasons, and the nature of the climates as now established.

Of all the modifying influences which have been as yet considered, there is none so powerful or so universal as that of water, whether it be considered as flowing by numberless canals into the entrails and on the surface of the earth, and becoming mixed with all the vegetable productions, or as accumulated in the immense reservoirs of the sea, and surrounding those continents which it appears destined one day to swallow up. The sun by its rarifying heat pumps up and reduces to the state of vapour the water of the different seas and rivers; the wind favours and assists this evaporation, and wafts into the atmosphere those humid emanations, which condensed by the cold of the night, again fall in copious dews, or which, when subjected to other physical laws, form rain, snow, and hail. The evaporation of water takes place entirely at the expense of the surrounding caloric; the vicinity of large rivers, and more especially of great seas, changes the temperature of the atmosphere. It is then very easy to account for the delightful climate of some isles in the middle of the Pacific Ocean, under the Torrid Zone; but it is not so easy to understand how, in the North, the sea-coasts enjoy a milder temperature than the interior of the plains. This however is ascertained from observation. Thus we see how the combined action of so many causes renders the classification of climates so difficult, if such classification is to be based solely on terrestrial geography. After laying down his division of climates into *hot*, *cold*, and *temperate*, he proceeds to the *first part*, which treats of the *Influence of Climate on Physical Organization*.

Chap. I. *Of Animal Heat.* After considering the various sources of caloric in general, he comes to the subject of animal heat. Man, he says, has a temperature peculiar to him, and which continues the same at all times, and under all conditions of life. It is inherent in his organization, as the blood, lymph, and the different parts of the system. Some physiologists derive animal heat from a vital property or function as essential to man as sensibility and contractility, and designate it sometimes by the name of caloricity, sometimes by that of calorification. Others see in the faculty possessed by animals, of keeping up an almost invariable degree of temperature, merely the result of essential functions, the product of a concurrence of organs. The proper heat of the body is about

from 98° to 100° Fahr. in the great cavities and in all the vital centres; this is the temperature of the liquids which circulate in the vessels, and which are thrown out by the excretory ducts. Titsing has stated (*Description de Curaçao*) that the animal heat is two or three degrees less in the people within the Tropics, whilst Davy has found it one or two degrees higher in the island of Ceylon. These contradictory facts are not borne out by the majority of observers. Gmelin, Ross, and Parry, advanced as far as 74° North latitude; there the alcohol thermometer marked 60° below zero, without this intense cold producing any appreciable diminution in the temperature of the body. Neither does external heat appear to have a more marked effect than cold on the phenomenon now before us. The Russians, Poles, Swedes, can endure the air of stoves heated to 167° F. without inconvenience. Several other experiments of the same kind satisfactorily prove that man and animals can preserve their natural temperature under very high degrees of external heat. The effects, however astonishing they may appear, are not incapable of explanation. In fact, the animal heat inherent in the human body at the time of birth, is kept up by the combined effect of several organic acts, and particularly those of respiration and circulation. Repeated experiments have shown that nine-tenths of the animal heat may be explained accurately by the quantity of oxygen which disappears, and by the formation of water and carbonic acid in the lung. The red-blooded and warm-blooded animals are those whose temperature is highest. The capacity of the thoracic cavity and of the pulmonary organs is greater in them than in any of the other classes of animals. Birds whose cellular lungs are continued into the abdomen, and into the principal parts of their skeleton, develop more heat than man and mammiferous animals. The latter again enjoy a temperature much superior to that of reptiles and fishes, whose heart has but one ventricle, whose lungs are very imperfect, and which can bear the privation of atmospheric air for a longer time. The more frequent the respiration and the more rapid the circulation is, the more heat is there developed. We may now consider what takes place in the different climates with respect to the activity of these functions.

In cold countries, and during winter, the respiration instead of being accelerated, as some authors have stated, is perceptibly retarded; but a greater quantity of oxygen is absorbed, a more electrical and less rarified air enters the lungs. The result of this is a more considerable disengagement of caloric. A portion of this caloric is given off with the respired air; the other portion is carried with the arterial blood into the torrent of the circulation in order to be distributed to the several organs. In cold countries the necessity of great exercise and of repeated movements is felt; the physical action of the friction of the parts one against the other causes the development of caloric. Besides, exercise accelerates the circulation and respiration; the repeated aspirations of air renew more frequently the phenomenon of hematosis; these become so many new causes of an increase of animal heat.

Digestion also serves, though in a lower degree, to keep up the equality of temperature observed in the human body. Tonic and stimulating substances, all those which contain rich animalizing principles, develop a large amount of caloric. The same may be said of the use of spirituous drinks taken in moderation. It is observed that people residing in northern latitudes are great eaters, that succulent food agrees better with them, whilst those residing in southern latitudes have more appetite for vegetable diet, for sweet acidulated fruits which require less digestive power, and develop but a slight degree of caloric. Nutrition is the end and object of all the functions, and its perfect accomplishment proves their integrity. The assimilation of the chylous fluid, which circulates with the arterial blood, disengages in passing from the liquid to the solid state a quantity of heat which is constantly acting, and which penetrates the interstices of all the organs. Our author having thus far considered the subject of animal heat, next proceeds to enumerate the different kinds of food used by the different nations of the known world. These, as being matters with which our readers are already sufficiently well acquainted, we shall pass over, and proceed to the functions of respiration and circulation. He here observes that, notwithstanding the constant uniformity of atmospheric air under all latitudes, with respect to

chemical composition, its physical qualities are extremely variable. Cold renders the air more dense: the introduction of a greater quantity of this fluid into the lungs stimulates the functions of these organs, and also increases their capacity. By a contrary action the chest of southern nations attains less expansion. He here notices the greater quickness of pulse in persons residing between the tropics, as stated by some travellers—this increased frequency of pulse however in intertropical climates has not been observed by modern observers. On the function of *absorption*, which forms the subject of the 4th chapter of this work, he remarks that it becomes more active according as the system stands more in need of reparation; women and children absorb with more activity and energy than adult and old men: atmospheric pressure, caloric, electricity, sleep and rest, also seem to increase the energy of this function. An empty state of the vessels, hunger, thirst, fatigue, and debility, act in the same way; parts denuded of the cuticle, and those parts where the cuticle is very thin, also possess increased absorbing powers. In this way, says our author, we may more readily explain how a person enfeebled by debauchery, fatigue and loss of sleep, is more liable to catch the venereal disease; and how individuals, exhausted by the same causes and by the debilitating effects of fear, are more exposed to the action of contagion. Hence in those countries where those destructive epidemics prevail, the necessity of preserving calmness and serenity of mind, and of avoiding all those excesses which may tend in any way to dissipate the strength. Our author next considers the secretions; those two only, however, which are influenced by climate, viz., the cutaneous transpiration and the urine. After detailing the experiments of Sanctorius on the cutaneous exhalation, with which and with the results of which our readers are already acquainted, he remarks that the cutaneous transpiration undergoes from the effect of temperature more considerable variations than the pulmonary transpiration, it being even probable that the one is destined to replace the other. This close correspondence will account for the frequency of pulmonary diseases occasioned by the impressions of cold made on the surface of the skin. There is one case however where the cutaneous and pulmonary transpiration are simultaneously very profuse, namely, after violent bodily exertion, which accelerates the respiration and circulation at one and the same time. According to Sanctorius the insensible transpiration is more copious at night than by day; he estimates the quantity of serum which a healthy man loses by night in seven hours' sleep, at fifty ounces. The experiments of Keil and Gorter go to prove, however, that this loss does not exceed sixteen ounces, and that in Holland and England it is greater by day than by night. All observers agree in stating that a profound and tranquil sleep facilitates this function, whilst it is interrupted by a restless and sleepless night. The cutaneous exhalation diminishes when the stomach is empty, or when it is too full; substances easy of digestion render the respiration easy; generous wine used moderately favours the functions of the stomach and skin. Our author mentions that he has known a great number of persons, in general in the class of hypochondriacal and hysterical subjects, in whom all the excretions were scanty, whose skin, constantly dry and parched, appeared incapable of perspiring. In these persons, who by the way were usually valetudinarians, the pulmonary transpiration was extremely active. The breath of such persons contracts a peculiar odour, which, though not always fetid, imparts deleterious qualities to the air of the apartments, and renders their habitations insalubrious.

Our author having considered in the *first part* of his work the organic modifications which man undergoes under the influence of different climates, now comes to consider the effects of this influence on health. This part he prefaces by some general considerations. He first considers the opinion of the ancient philosophers with respect to the origin of diseases. They would have it that diseases were in a great measure the result of luxury and of those artificial wants created in the state of society. Though there certainly is some truth in this, yet to a close observer it must appear manifest that diseases are the inevitable consequence of our organization. Physical sensibility is the source, the result, and the condition of life. This great function is constantly supported by external agents, and becomes extinct, when deprived of them. Without air, heat, and

aliment, the organs become changed, sensibility is destroyed, and the individual dies. If this privation is not total, if the natural composition of those agents is only altered or modified, life may not be destroyed, and may still be dragged on in a languid state. The faculty of perceiving agreeable or painful impressions is one and the same, and when beings sensible to pleasure were created, these same beings were also subject to suffering.

As a further proof that diseases are not solely attributable to the refinements and luxuries of civilized society, he adduces instances of several tribes of savage nations, as also of some species of the lower animals, among which diseases, and chiefly diseases of an epidemic character, prevail. In the sultry climates of Asia and Africa, where the absence of social institutions retains man in a state of eternal infancy, the mortality is more terrific than even in the midst of civilized Europe. It is evident however that there are less connate infirmities among savage nations. But whilst it is admitted that original mal-formations which depend almost all on a scrofulous taint, are more frequent in civilized countries, it should be recollected that in savage nations every malformed child is quickly destroyed and thus prevented from forming a part of society. If the progress of civilization has extended the field of disease by affording an unrestrained course to a thousand inordinate passions, we should recollect on the other hand, that we are indebted for the greatest blessings to the advancement of science, and more especially that of medicine. The former ravages of epidemics among us are now considerably mitigated. The application of the precepts of hygiene, by drying up the sources of infection, has rendered certain diseases less frequent and less fatal.

With respect to the etiology of diseases, they were attributed in the infancy of society to the anger of the gods; superstitious man endeavoured to appease them by sacrifices and expiations. Thus the priests who were regarded as the depositaries of the divine power, were also the first physicians. Though in the hands of such practitioners nothing but expiatory offerings and magic forms of words met the vulgar eye in the treatment of disease, still those medicinal and hygienic resources, either suggested by the instinct of the patients, or sanctioned by the authority of experience, were by no means neglected. Thus we see that among the Hebrews faith alone, or mere words, or the imposition of hands, did not suffice for the cure of leprosy; Moses was careful also to prescribe the most judicious regimen and that which best suited the nature of the climate. Elyseus cured the Syrian general Naamon by making him bathe in the waters of the Jordan. The soothsayer Melampus cured Iphiclus of impotence by the oxide of iron. Sobriety, continence, and gymnastic exercises, which comprised the therapeutics of Pythagoras, were more effectual in the treatment of disease than the sacrifices and other superstitious observances. Hippocrates, alluding to a disease somewhat prevalent among the Scythians, and which they regarded as a punishment from the Deity, observes, that this disease was just as divine as others; all diseases have a natural cause; this cause, no doubt, oftentimes escapes us, and even though by close observation we may succeed in discovering it, we cannot always discover the connexion between the cause and the effect.

Etiology is confessedly one of the most useful and instructive studies in which a physician can engage, as it is on it the most solid foundations of therapeutics rest, as also the most positive and most important notions of hygiene. One of the best attested and most general influences is that exercised by climate on the production of diseases and on their different phases. We now come to that part of his work where the author considers the *diseases of cold climates*. The most general effect of cold is to diminish the size of bodies by approximating their molecules. When applied to the animal economy it contracts the skin, drives towards the centre those fluids which the organ of circulation projected to the periphery. The cutaneous exhalation becomes less copious, rather in consequence of the density of the air, than of its low temperature. The pulmonary transpiration replaces it, and compensates the want of activity of the cutaneous functions. The atmosphere of northern regions is more dense, and more electrical; a greater quantity of air is introduced under the same volume into the

respiratory organ, and so yields more oxygen and more heat to the blood and to the entire system. When the cold is too intense, the vital reaction being insufficient, the lungs absorb but a very small quantity of oxygen for the support of life. When this occurs, the venous blood, no longer converted into arterial blood by the contact of the air, penetrates the brain, ceases to stimulate it, the interruption of the functions of the sensitive centre causes the action of the heart and the function of respiration to cease, and life becomes extinct. One of the most constant effects of cold is a treacherous sleep, the forerunner of death. The cold more particularly affects those organs placed at the periphery of the body, and which are more removed from the centre of circulation. By constringing the ultimate vascular ramifications it drives the blood chiefly to the head. Most of the persons who fall victims to intense cold die apoplectic, the vessels of the brain being usually found gorged with venous blood. In the same way we may account for the long-continued sleep of the inhabitants of northern countries, and the comatose and lethargic affections so frequent among them, and the violent headaches to which we are told by Linnæus the Laplanders are subject. It is unnecessary here to dwell on the chapped skin, those affections of the hands and feet, called chilblains, which are not unfrequent among us, even during our comparatively mild winters, but are more general and more severe in northern countries; very frequent instances occur amongst them of gangrene occasioned by cold, the nose, ears, fingers, toes, feet, hands, and sometimes entire limbs becoming sphacelated. It has been already stated that the cutaneous transpiration is considerably diminished during winter, and that the pulmonary transpiration replaces it in northern climates. Hence, from the well-known physiological law, that the more excited an organ is, the more liable is it to disease, we shall not be surprised to find a great number of cases of angina, bronchitis, peripneumony, and pleurisy. The intestinal mucous membrane, which is less frequently excited, is seldom attacked with inflammation. We cannot help saying that we were not a little amused with a remark of our author's here, which is, that "it sometimes happens that the pulmonary exhalation scarcely arrives in the air-passages, when it is converted into a multitude of small icicles which irritate and lacerate the pulmonary mucous membrane." This is a morceau of pathology, which we really cannot swallow.

The eyes are no less exposed than the lungs to the terrible influence of cold. The snow which envelops the country on every side for several months in Russia, Norway, and Poland, the sharp winds from the frozen ocean which strike directly on the palpebral mucous membrane, the dense smoke which prevails in the dens of the Laplanders and Esquimaux; the sand from the deserts of Siberia which is wafted to and fro in the air, occasions ophthalmias, which, in the north of Asia, of Europe, and of America, attack not only individuals, but whole nations. Thus all the Laplanders are remarked for having red, swollen and ulcerated eye-lids; they can scarcely endure the light of day, and generally walk with one hand placed at the lower part of the forehead, so as to avoid the impression of the solar rays. Amaurosis and cataract are very common in Russia, Poland, and all northern countries.

When we consider that the sanguineous temperament, an irritable constitution, the abuse of alcoholic liquors, and the prolonged application of cold and moisture combined, are the causes most calculated to produce rheumatic affections, we shall not be surprised at finding that these diseases do prevail very generally in almost all northern countries.

Notwithstanding the filthy habits of the Polar nations, who, at the approach of their long winters, bury themselves in their subterraneous habitations with their families, their dogs, and their reindeer; notwithstanding also the bad quality of their food and drink, and the oil and fats with which they rub their bodies, cutaneous diseases are not so numerous among them as in warm climates, which is to be attributed no doubt to the little excitement and vitality of the skin. It is an observation worthy of being remembered, that when the diseases of equatorial regions spread into cold countries, they sometimes make great havoc there, and are much more difficult of cure than in warm climates. Small-pox sometimes assumes an epidemic form in those cold countries, and then proves a terri-

ble scourge. In fact it is to its malignity that the depopulation of Greenland and of Kamschatka has been in a great measure attributed. Epilepsy and hypochrondriasis, according to some travellers, are not uncommon among the inhabitants of the Polar regions; thus, whilst the Laplanders have their feelings blunted and well-nigh obliterated, whilst the savages of North America, insensible to physical pain, mutilate themselves and shed their blood amidst shouts of boisterous joy, these same individuals, timid and pusillanimous, fall, it is said, into violent convulsive fits on the slightest impression made on them, at the least unexpected noise. The women of Kamschatka, Lapland, and Iceland, are subject during the menstrual period to hysterical and other nervous affections. Civilization has introduced into the countries of the North no less nervous diseases than into temperate climates. They are very frequent in Russia, Poland, and Sweden. Denmark is one of the European nations where suicide, that moral distemper of civilized states, reckons the largest number of victims.

The combination of cold and moisture is, of all atmospheric conditions, that which exercises the most fatal influence on the system. It is to the influence of this cause we must attribute scrofula and all those chronic diseases which, under a variety of forms, affect the lymphatic system. Scrofula has become according to our author more frequent and of a worse character since the appearance of syphilis. The latter disease has now spread very extensively over both the high and low classes in Russia, Sweden, and over the northern parts of Asia. There are few countries where one meets with more persons without noses than in Poland.

Plica, a disease which prevails endemically in Poland and in some parts of Russia, our author considers to be a particular form of scrofula, which is often preceded by symptoms of articular rheumatism; the repercussion of this disease has been frequently followed by the most disastrous consequences, as apoplexy, phthisis pulmonalis, epilepsy, caries ossium, and amaurosis. Its treatment is the same as that of scrofulous diseases in general, sudorifics, depuratives, and antiscorbutic remedies, seconded by strict attention to hygienic rules, without which no treatment is of any avail. Having now enumerated the principal diseases to which the inhabitants of the northern climates are obnoxious, he makes one remark which, as being of practical importance, we extract in our author's own words: "The lymphatic and muscular constitutions of the North are less sensible to stimulants of every kind, whether internal or external; from this less degree of susceptibility results the necessity of employing more active remedies and larger doses of these remedies. In Russia, Spanish pepper mixed with brandy is regarded among the lower classes as a universal panacea. Hellebore and aconite also enjoy a high reputation. Opium, cicuta, belladonna, tartar emetic, and quinine, produce their effects more slowly, and less characteristically than in temperate climates." To these general observations, however, there are numerous exceptions. We shall now follow our author in his observations on the diseases of hot climates. After noticing the effects of caloric on bodies in general, he remarks that the animal economy also, though withdrawn from the dominion of physical agents by the vital principle, still receives certain modifications from their influence. Thus, under the agency of an elevated temperature, the motion of expansion from the centre to the circumference being further aided by the diminished density and consequently diminished pressure of the surrounding atmosphere, all the fluids of the body are attracted towards the skin. This organ is penetrated by more numerous as also by larger branches of the lymphatic, sanguineous and nervous structures; this increase of vitality, sensibility, and exhalation renders skin diseases more severe and more numerous.

In warm climates, the air being rarer and more expanded, the lungs absorb less of oxygen. The proportions of the venous system will thus preponderate over those of the arterial; the liver also, whose business is to remove hydrogen from the blood, will become very active. The bile will be secreted in greater abundance, and the system of the vena portæ will become more developed. The result of this excess of action and of vitality will be an increase of disease, as well in the structure as in the functions of the biliary apparatus. Nor is this stimulating influence of heat and light confined merely to the skin; they also

excite the brain and nervous system. It may be observed also that though heat by relaxing the tissues disposes to repose, and keeps the senses in a state of languor and dullness, still persons sleep less in warm climates; this privation of refreshing sleep our author considers to be one of the causes which renders cerebral diseases and idiopathic nervous affections in general more numerous and more severe.

Under the tropics only two seasons are known: the hot and the rainy season; in the latter, which lasts about three months, and in which the temperature is considerably diminished, pulmonary catarrhs, pleurisies and peripneumonies, soon followed by hepatization of the lung, are very prevalent. These inflammations are occasionally followed by pulmonary phthisis, which though by no means so common here as in the temperate climates of Europe, yet is occasionally observed in the Antilles and under the equator, where it assumes a very acute and rapidly fatal character.

Small-pox derives its origin from the hot climates of Arabia, Abyssinia, and Ethiopia, where it is endemic. Measles has the same origin. Lepra, the most formidable of all cutaneous diseases, derived its birth from the burning regions of Arabia, Syria, and Egypt.

Our author ventures an opinion here on the nature of lepra: he thinks it not improbable that it is a scrofulous degenerescence occasioned by climate; this view of the matter he conceives to be strengthened by the fact that the constitution where the lympathic system predominates is that most obnoxious to it. Elephantiasis, which is a very rare disease in temperate climates, is endemic in hot countries. It is very common among the negroes. All parts of the body may be affected with it; it is more usually seated however in the extremities, and chiefly in the lower extremities. The Indians, as a cure for this disease, cut up into small bits a species of lizard called by them anolis, and swallow three of these reptiles in the raw state every morning, till they are perfectly cured.—The next disease noticed by our author is one called *pians*, which consists of tubercles resembling the large pustules of small-pox. This is considered by some as one of the most formidable varieties of syphilis. It is not only propagated by hereditary transmission, but even the mere momentary contact of a person labouring under it is sufficient to communicate it, or even touching any object which belonged to him. Mercury, sudorifics, and arsenical preparations are the remedies found to be most successful in its treatment.

Hepatic disease from the excited state of the liver, gastro-enteritis and dysentery from repercussion of the cutaneous transpiration and the immoderate use of fruit, are very prevalent in hot climates. It is unnecessary here to follow our author in his descriptions of cholera and of the yellow fever, so prevalent in those climates. The constant excitement of the nervous system, the putrefaction of animal and vegetable substances, assisted by the burning influence of a tropical sun, very commonly occasion cerebral diseases in different forms, as also those fevers called putrid or adynamic, malignant or ataxic. Intermittent fevers, whether of a simple character or complicated with some gastric or hepatic affection, are so common in those climates that they become associated with all diseases in their different stages, and assume all characters and all types. Neuroses of every species and of the worst character, such as cramps, convulsions, tetanus, epilepsy, hysteria, hypochondriasis, catalepsy, paralysis, etc., are of very frequent occurrence in tropical climates. Exposure to the atmosphere when cooled, is particularly fatal to children, and gives rise to fatal convulsions, trismus and tetanus. Acute diseases we often see ushered in by violent convulsive paroxysms.

Dropsy, in its various forms, occurs with considerable frequency under the tropics. This disease may be occasioned by the humid state of the atmosphere, in our author's opinion, or by the vegetable and relaxing quality of the food, or what appears to us more probable, by obstructions in the liver or the abdominal viscera. Scurvy, though it exercises its ravages chiefly in cold climates, does not however entirely spare the equatorial regions. It is said to be so frequent in the Antilles that there are some constitutions there decidedly scorbutic. When concluding this part of his work our author remarks that the treatment

required for these extraordinary diseases of hot climates must be prompt and energetic as the diseases themselves; that blood-letting, so useful in other places, is seldom indicated or efficacious in tropical countries, even at the onset of acute diseases, and that tonics are in general very salutary. In the most formidable diseases of the skin, he says that in those cases where the resources of art are not entirely powerless, it is from hygiene that the best curative means are to be derived. The juices of plants, wholesome diet, from which fish, eggs, and salted meat are excluded, baths, and attention to cleanliness succeed more frequently than pharmaceutical remedies. Convulsive diseases and intermittent fevers call for prompt as well as strong doses of sulphate of quinine. Camphor, sal ammoniac, tartar emetic, and large blisters are also employed with advantage. The avoidance of excess at table, as also of those enervating indulgences so much practised in hot countries, guarding against the noxious influence of exposure to the cold and humidity of the night air, as well as removal from the mischievous effects produced by the decomposition of animal and vegetable substances, are most imperatively enjoined by the author.

In chap. 7, where he treats the subject of mortality, our author makes some curious and not uninteresting remarks; and first, with respect to children dead-born he says, that the ratio of the dead-born to the births is but very imperfectly known, as it varies prodigiously, according to the different climates: thus there is one death to 19 births in Paris, one to 20 at Berlin, one to 24 at Vienna, one to 27 in London, one to 36 at Stockholm. The mean or average for all Europe is one to 22. The number of dead-born is greater in winter than during the other seasons, in cities than in the country, and three times greater in illegitimate births. Our author here mentions a very surprising fact with respect to the number of dead-born in both sexes; it is that the mortality is greater among boys than among girls; this law has been found to hold good throughout every country in Europe, the relative numbers being 13 and 10. The mortality is found to be less, generally speaking, in temperate climates than in those where the temperature is in the extreme. England he finds to be the country where the mortality is least, there being one birth to thirty-five inhabitants, and only one death to fifty-eight.

From the researches of statistical writers, it appears that all over Europe the maximum of deaths occurs towards the close of winter, and the minimum towards the close of summer. With respect to the *mean duration of life*, it was in France before the revolution twenty-eight years nine months; it is calculated to be thirty-two years and a half. In England it is thirty-three years. Death carries off a great number of children of both sexes at a premature age; the tenth perishes a month after birth; a fourth is carried off after the first year; a third at the end of the second; there scarcely remains one-half at the end of twenty years. Our author very justly attributes the increase in the average duration of life to the introduction of vaccination. With respect to the *probabilities of life*, our author observes that the chances of death are not the same for both sexes at different ages. During the first, and even the second year after birth, more boys die than girls; then the number of deaths in the two sexes becomes equal till the period of puberty. Then more females die than males; the number of the latter preponderates at the age when violent passions prevail, viz. between the age of twenty and thirty. At no period of life, with the exception of the year after birth, is there such great mortality. The turn of life is fatal to some women; but this epoch once safely passed, their health becomes confirmed so as to resist the incroaches of disease for a considerable number of years. They attain a considerable old age more generally than men; yet there are not so many centenarians found among them. The remaining part of the author's work consists of some sections on the art of prolonging life; some observations on the influence of climate on the morals, &c. As there does not appear much that is novel in these chapters, we shall close our analysis here.—*Med. Chir. Rev.*

ON THE EFFICACY OF EXTENSION, SHAMPOOING, AND PERCUSSION IN MUSCULAR CONTRACTIONS.

By Dr. Recamier, of the Hôtel Dieu.

The peculiar functions of all the organs of the body may be disturbed, either directly or indirectly—the deviations from health being in many cases dependent upon the state of an organ at a distance from the one, which exhibits the morbid phenomena.

The contractile functions of the muscles, involuntary as well as voluntary, not unfrequently exhibit the truth of this remark. My object in adducing the following cases is to point out the great efficacy of simple mechanical means in rectifying many muscular ailments.

1. About eighteen years ago, I was consulted by a middle-aged gentleman, who had for upwards of four years been regularly nailed to his bed by a pain in the right side of the neck, shoulder, and arm, which was so agonizing on the slightest movement that often he could not refrain from screaming out.

All sorts of anodynes and emollients had been ineffectually tried. I advised the use of regulated and, as it were, elastic percussion with the hand on the affected part. At first it was to be administered in gentle taps, and gradually with more and more forcible beats. By the aid of this simple means alone, the patient was speedily relieved from all his suffering, and was soon enabled to resume his duties as a judge of the peace.

2. A young girl, 18 years of age, was admitted, in 1836, into the Hôtel Dieu, under the care of M. Recamier, for pleurisy. At the beginning of the following year, the catamenia, which for some time back had been scanty, were suddenly arrested by exposure to wet and cold. Dyspnœa and general *malaise* were the consequence. She was re-admitted into the Hôtel Dieu. Leeches were applied repeatedly to the vulva; but then the left arm, fore-arm, thigh and leg, became affected with extreme rigidity, and these symptoms were accompanied with retention of urine, and with a most painful difficulty in evacuating the bowels.

Bleeding, anodynes, in enemata, as well as given by the mouth, &c., &c., were freely employed, but with no avail; and this poor creature remained for two entire months in this most distressing situation of stiffness of the left limbs and retention of (or rather, we presume, difficulty in passing) the urine and the fæces.

On examining the rectum it was found to be quite empty; but the *sphincter ani* was exceedingly contracted.

I dilated the stricture; the pain, although severe at the time, ceased, almost immediately, and the evacuation of the bowels became at once much more easy.

The result of this first trial induced me to treat the urinary affection in a similar manner; and with this view I began to work or knead (*masser*) the neck of the bladder against the pubes, by means of a finger introduced into the rectum; the strangury ceased as quickly as the constipation had done.

I then resolved to apply a similar mode of treatment to the contracted muscles of the limbs, acting as in cases of ordinary cramp.

I commenced with the arm; and it was not without great difficulty that I overcame, little by little, sometimes by continued efforts and at other times by efforts *en cadence*, the resistance of the extensor muscles of the fore-arm, the flexors of the hand, and also of the deltoid and other muscles of the shoulder-joint.

By dint of patience, however, the arm was bent, the hand opened, and the arm was gently removed from the side: then laying hold of the hand, I kept swinging it about.

After this rather violent, and moreover painful, manipulation had been continued for some time, it was found that the patient was able to move her arm about herself.

My attention was then directed to the affected lower extremity; but here it required the strength of three people to bend first the knee and then the thigh on the pelvis. We may readily suppose that these efforts were attended with great

suffering to the patient. When the pliability was once restored, the limb was swung about from side to side for some time. This did not require to be continued long, till the girl was able to use the limb herself, so as to walk about the ward.

Gradually she recovered the use of all the contracted parts, so that she soon left the hospital nearly quite well.

The *third* and *fourth* cases were of wry-neck; in both, the disease was cured by the gradual but forcible extension of the contracted muscles.

The *eleventh* case which M. Recamier relates, was one of permanent and painful rigidity of the muscles on the back of the neck, in an elderly lady, who was in consequence of the affection confined constantly to her sofa. A variety of means had been ineffectually tried for a length of time, when, on the suggestion of our author, shampooing and compression speedily effected a cure.

5. Five and twenty years ago, I was consulted by a lady, who had long severely suffered from a *fissure of the rectum*, for which the late Baron Boyer had divided the sphincter.

The operation, however, did not prevent a relapse of the disease, and the patient continued to suffer dreadful pain in the rectum, especially on going to stool.

Dilatation of the sphincter and of the lower end of the rectum by means of bougies, gradually increased in size, ultimately succeeded in effecting a perfect cure.

It is to be remarked that in this, and in many other similar cases, the dilatation was attended with excruciating pain.

Dr. Recamier mentions several other instances of painful constriction of the anus, either simple or complicated with hæmorrhoids, fissures of the rectum, &c., in which the use of gradual but forcible distension of the gut was speedily followed by great relief, and ultimately by complete recovery.

He adds that the surgical operation of dividing the sphincter may be dispensed with in the majority of cases.

6. Several years ago I was sent for to a middle-aged lady, who was suffering dreadful torture from *une colique nerveuse et apyretique*.

Without delay I placed my extended palms on her belly, and commenced a gradual and firm compression—this had not been continued long before the severity of the suffering quite ceased.

In a future paroxysm I made her waiting-maid *asseoir sur le ventre de sa maitresse;* and this mode of compression was speedily effectual (!)

In another case of a like nature, I have used with success a binder drawn very tightly round the abdomen; adding, if necessary, a pad or cushion over the seat of the pain at the same time.

When in severe colic the intestines are felt through the abdominal parietes, like hard cords or serpents, I have repeatedly relieved the patient's sufferings by kneading them, as it were, with my hands, so as to overcome their unnatural state of constriction.

7. A lady, thirty-two years of age, had long suffered from excruciating pains in the hypogastrium, unattended, however, with fever. On examining per vaginam, the uterus was felt to be quite healthy; but, on examination by the rectum, the posterior surface of the uterus was found to present several inequalities to the finger. This case I regarded to be one of a purely nervous, or muscular, character, and likely therefore to be benefited by compression.

Grasping the uterus in the hypogastrium with my left hand, I pressed upon, with two fingers of my right hand in the rectum, the inequalities just now mentioned; I was surprised to find them gradually disappear; while at the same time the patient, who at the beginning of the experiment suffered most severe pain, declared that she was now comparatively quite easy.

These *bosselures* having been in this manner dissipated, on three or four occasions, the pains ceased to return.

The cure was rendered permanent by the use of a bandage, tightly laced round the pelvis and hypogastrium.

What relation is there, adds M. Recamier, between the cause of these uterine

pains and the partial spasms of the womb—an organ which we know to be muscular and eminently contractile?

The next two cases, which our author records, are instances of violent intestinal spasms, which were speedily relieved by the employment of forcible compression, and of enemata of warm water administered at the same time.

10. A lady, thirty years of age, had for several months been affected with a permanent and apyretic hiccup, the *secousses* of which were so violent, as quite to lift up and shake every part of the body. Various remedies of an anodyne, antispasmodic, &c., nature had been employed, but without decided benefit. I suggested the use of a firm belt, provided with a pad or cushion, placed over the pit of the stomach. By this simple means alone, the patient got entirely rid of her annoying ailment.

12. A young lady was, in 1834, affected with various chlorotic symptoms, for which steel, active exercise in the open air, &c., &c., were recommended by Dr. Colson of Beavais. In 1835, after exposure to wet and cold, she began to be affected with an incurvation of the spine to the left side, so that the trunk formed at length an angle of 45 degrees with the vertical axis of the pelvis; and, at the same time, the right shoulder was lifted up to almost a level with the head, and the right fore-arm was immoveably contracted upon the arm. Such was the condition of this poor invalid, when she was sent to Paris to be seen by MM. Andral and Marjolin and by myself.

Leeches, cupping over the spine, baths, &c., had been repeatedly tried; but without any effect. The result of the metropolitan consultation was to recommend the use of gymnastic treatment, of fumigations, of leeching and cupping, of embrocations, &c.—but these means were used with no better results than heretofore.

She was then put under the care of M. Guerin, and subsequently of M. Humbert at Morlaix; and, although nearly two years were spent in trying various remedies, the condition of the patient was little, if at all, improved.

Upon her return from Morlaix, she once more consulted M. Recamier, who, remembering the striking results obtained in the second case, suggested to M. Colson to try a similar mode of treatment.

Severe pain was caused by the forcible extension of the fore-arm, combined with the shampooing of the biceps muscle. This might have been expected, seeing that the muscle had been permanently contracted for upwards of three years.

The gradual extension and kneading of the muscles of the affected shoulder and of the trunk were attended with much less pain; indeed the manipulation, although very irksome, was almost immediately followed by a feeling of great relief. The improvement of the state of the shoulder and of the affected side of the neck was speedily most remarkable; the condition of the arm and fore-arm was not so promising.

By continuing, however, steadily the same plan of treatment, this young lady gradually recovered the use of the contracted limbs, and was enabled to resume *ses anciennes habitudes;* whereas, during the preceding three years, she had been quite shut out from society, and an object of great helplessness.

13. Last December I was sent for to meet MM. Lisfranc and Chevreux in consultation upon the case of a middle-aged lady, who had been affected some months previously with hysterical ailments; on the cessation of which there supervened a violent pain, first in the coccygeal and then in the cervical and occipital regions, recurring in fits of the most excruciating agony.

During the continuance of these most severe sufferings, there were also, now and then, symptoms of a subacute inflammation of the uterus and its appendages present.

The patient had been visited by MM. Andral and Chomel. A host of medicines, antiphlogistic, anodyne, epispastic, derivative, &c., had been tried; but without any decided benefit. The quantity of opium, which she had taken without producing even narcotism, was immense. What had procured perhaps more relief than anything else was the application of four grains of the extract of stramonium to a blistered spot on the scalp; but the symptoms of poisoning from it were so alarming that the physician was unwilling to repeat the remedy.

M. Recamier, having attentively studied all the phenomena of this very aggravated case, suggested the following means to be tried :—a firm belt round the hypogastrium, provided with a strap and cushion to compress the os coccyx and the fundament ; enemata of assafœtida, camphor, castor, opium, and sometimes of quinine, when the return of the paroxysm appeared to be at all periodic ; the internal use of pills of musk, camphor, and assafœtida ; electro-puncturation ; and lastly the extension and shampooing of all the muscles, which were at any time affected with cramp.

Before leaving the house of the patient, M. Recamier had an opportunity of witnessing one of her dreadful paroxysms of pain, which had, hitherto, usually lasted for three or four hours : the head was thrown backwards, and her features were distorted by convulsions. Having satisfied himself that the muscles on the back of the neck and shoulder were violently contracted, he requested MM. Lisfranc and Chevreux to fix the two shoulders, while with one hand he (M. Recamier) forcibly drew the head forward, and with the other he *kneaded* and *pommelled* the affected muscles.

The patient all this time was screaming out with pain ; but no sooner was the head fairly bent forward than she began to smile, and confessed that she was quite easy. M. Recamier advised that the head should be moved about from side to side for some time, in order to prevent the speedy return of the cramp.

The future relapses of the disease were always treated in the same simple manner, and with equally gratifying success.

(The report stops here.)

M. Recamier closes his interesting and instructive paper by the enunciation of the following conclusions :—

a. It is very necessary to discriminate those spasms or contractions, which are not dependent upon, or proceed from, an affection of the nervous system, but which constitute a direct loss of the contractile functions of the affected muscles themselves.

b. In idiopathic muscular contractions, in wry-neck, in spasmodic colic, in permanent spasms of the sphincters, &c., the use of extension, compression, and shampooing, and the application of the cupping-glasses, seem to be by far the most efficacious means of treatment.

c. Hence it is rarely necessary to have recourse to section of the contracted muscles in such cases. Where we know, or have reason to suspect, that there is an actual degeneration or morbid change of structure in the part, such an operation will probably be necessary.—*Revue Medicale.*

Remarks.—We quite agree with the Editor of the French Journal, in which M. Recamier's paper appears, that it is one of the most practically valuable which has been communicated to the profession for a great length of time.

The character of M. Recamier stands very high among the ablest physicians of the French metropolis : from our own experience of the French medical literature, we should be inclined to award the palm of pre-eminence to him and to M. Andral, as the two men of the largest and most comprehensive minds, and the best imbued with the genuine spirit of true philosophy.

Their views on medical questions are always clear and sagacious, and their practice seems to be invariably simple and natural.

They are the very antipodes of such men, (able though these are) as MM. Bouillaud, Velpeau, &c., who too often allow themselves to adopt certain notions of disease, and strive to confine nature within definite and arithmetical calculations.—*Ed. Med. Chir. Rev.*

REMARKS ON CONSTITUTIONAL HÆMORRHAGES, WITH CASES.*

Case 1.—A man, twenty-four years of age, was admitted into the Hôtel Dieu, in consequence of a false aneurismatic swelling in the palm of the right-hand, which, having been mistaken for an abscess, had been opened. This man had

* From the Med. Chir. Rev.

been subject, since his boyhood, to frequent recurrence of epistaxis, and to very profuse bleedings from any accidental wounds.

His life had once been seriously endangered by the hæmorrhage from some leech-bites on one of his knees. The swelling of the hand had come on after a violent strain, which, he (the patient) said, had dislocated his thumb-joint at the time. The surgeon, who first saw it, mistook it for an abscess, in consequence of the absence of all pulsation and from the distinct sense of fluctuation, which was perceptible in it. The hæmorrhage had been very abundant, and could not be restrained by pressure on the radial and ulnar arteries, but only by firm pressure on the wound itself. Whenever the compresses were removed, it returned; and M. Roux, therefore, determined at once to tie the arteries of the fore-arm. The radial one was first secured; and, as the bleeding still continued, the ulnar also was tied. The hæmorrhage seemed to be arrested for the time; but, in less than an hour, all the bandages were found soaked with blood, which had oozed not only from the palm of the hand, but also from the two incisions in the fore-arm, which had been made during the operations. Suspecting that the blood might continue to flow through the interosseous arteries, the dresser applied a tourniquet above the elbow-joint; but even this failed, and the patient died in the course of the evening.

The dissection was performed with great care. Almost all the viscera of the three great cavities were pale and exsanguine: some fluid blood was found in the right, but none in the left, cavities of the heart. The blood-vessels of the affected limb were minutely injected; but no irregularity, either as to distribution or visible formation of their branches, was anywhere discoverable. The radial and ulnar arteries had been fairly tied; there were, however, no traces of any coagulum either above or below the seats of the ligatures. The deep palmar arterial arch was *intact*—(in other words, was not involved in the aneurismatic tumor). The anastomosing branch, which passes between the superficial and deep arches, appeared to be the only one which was lost in the aneurismatic sac. The soft parts surrounding and forming this sac were reduced to a state of a blackish *bouillie*, in which no distinction of tissues could be discovered.

The reporter of the preceding case is inclined to attribute the diseased action,—which, we may suppose, gave rise to the very remarkable disposition to hæmorrhage,—rather to an extreme fluidity of the blood itself, than to any change of structure in the blood-vessels, or in any other of the solid parts. That the blood was, indeed, remarkably fluid, and uncoagulable, cannot be disputed; but as to the cause of this change we are quite in the dark.

Case 2.—A man, forty-one years of age, who had frequently suffered from profuse *epistaxis* and *hæmaturia*, and also from rheumatic pains, accidentally struck his side against the edge of a door: the consequence of this was an enormous ecchymosed swelling, accompanied with extreme general languor and tendency to syncope.

On a former occasion, the mere pressure of another person's arm on the patient's elbow had caused a most extensive extravasation of blood from that part up to the shoulder.

It is worthy of notice that two uncles of this man had died, when young, from accidental hæmorrhages: one of them from the bleeding after the extraction of a tooth.

His only sister too died in her infancy from a hæmorrhage from the vulva; and his two brothers, after having been subject for many years to violent epistaxis, perished; the one in consequence of a blow on the head, which had caused an enormous sanguineous infiltration of the scalp, and the other from secondary hæmorrhage after ligature of the crural artery, rendered necessary by the profuse bleeding from an accidental wound in the calf of the leg. (*Revue Medicale*, October, 1835.)

The *Hæmorrhagic Diathesis*, or *Constitution* seems to have been very remarkable in this family.

Case 3.—In the number of the *Archives Generales* for October, 1833, there is the detailed history of a case of hæmorrhagic diathesis, in which, as in the preceding one, the patient, a young boy, was afflicted at the same time with

rheumatic pains. Dr. Hugues had made diligent inquiry as to the health of the other members of his family, and had learned the following particulars. All the *males* were subject to occasional spitting and vomiting of blood; also to hæmaturia, epistaxis, and to troublesome hæmorrhage from any part which chanced to be wounded. All of them suffered from troublesome rheumatic pains, whenever they were affected with any form of hæmorrhage. Several had died in their youth; and in those, who survived to more mature years, the hæmorrhagic disposition seemed to become less and less decided. It had been frequently remarked that, if any of them chanced to be blistered, the discharge from the vesicated surface was generally bloody.

Several of the *females* of this family, although they have exhibited the hæmorrhagic diathesis in their own case, had transmitted it, *sans exception!* to their offspring.

If the preceding observations are quite accurate and to be depended upon, they present a very remarkable instance of a peculiarity of constitution in the *males* of a family, while the *females* were exempt from it. The co-existence of the hæmorrhagic attacks and of rheumatic pains,—the former always preceding the latter—deserves also to be noticed.

In the Archives for July 1835, we find some particulars of a family, the *males* of which exhibited a similar disposition to troublesome hæmorrhages. One, a boy nine years of age, perished from excessive bleeding after the application of cupping-glasses to the knee; another, three years younger, died from a wound on one of his temples, from which there had been a most profuse hæmorrhage; a third, thirteen years of age, nearly lost his life from the obstinate bleeding from leech-bites upon his shoulder.

Two of these children had long suffered from rheumatic pains.

Case 4.—A man, forty years of age, and of a soft lymphatic constitution, was subject to most troublesome hæmorrhage from very slight wounds. On two occasions the bleeding after the extraction of a tooth had required, for its arrest, continued compression for several days. At another time it was necessary to use the actual cautery to stop the bleeding from leech-bites; and the same means were, on one occasion, requisite to stop the bleeding from a simple wound of a finger. Several times large ecchymoses had formed after very slight bruises.

It was for a swelling of this sort on the inner side of the thigh, that he had consulted M. Marjolin. This eminent surgeon was inclined to attribute the singular tendency to hæmorrhage, which existed in such a case as the present, rather to an atony of the capillary vessels, than to any marked fluidity of the blood itself, although he was not disposed to deny some influence to this latter cause.

It deserves to be noticed, in reference to this subject, that wounds of the larger blood-vessels, such as that made in venæsection, are usually found to heal as readily in *hæmorrhagic* individuals as in any other set of patients. This, however, is not always the case. Dr. Otto of Philadelphia, has recorded the history of a woman, *all of whose sons* had a remarkable tendency to troublesome hæmorrhages from the slightest wounds. One, if not two, of these sons died in consequence of the loss of blood from ordinary venæsection. A curious circumstance is mentioned of the extraordinary power of the *sulphate of soda* in arresting hæmorrhage from some of those persons. It was found that if this salt were taken, for several days successively, in doses large enough to purge the bowels, the bleeding ceased, and the wound speedily began to cicatrise.

Krimer also alludes to the efficacy of this remedy in such cases. He alludes particularly to the history of one family, of which all the *male descendants for four generations*, had been most strikingly subject to hæmorrhagic accidents.

M. Sanson, in his Concours thesis for 1836, mentions the case of a man, who died from a urethral hæmorrhage: six of his children had perished from the bleeding from casual wounds.

Mr. Blagden has given us the particulars of a man, who nearly perished from hæmorrhage after the extraction of a tooth: it was not completely checked for nearly three weeks.

This patient subsequently had an alarming hæmorrhage from a trifling wound of the scalp; and, on a future occasion, the bleeding which followed the extraction of a tooth proved so obstinate as to require the ligature of the carotid artery, before it was arrested! The particulars of this case are reported in Samuel Cooper's "Dictionary of Surgery."

In concluding these remarks on Constitutional hæmorrhage, we may once more state that the cause of this most serious condition may be either an atony and defect of contractility in the minute blood-vessels of the part, or a dissolved and unusually thin state of the blood itself, which is thus but little disposed to coagulation. Probably both of these agencies are present in most cases.

Finally, in the treatment of such cases, the use of internal astringents has, perhaps, been hitherto too much neglected. The use of the preparations of lead and of some other mineral astringents may probably contribute very materially to promote the utility of local styptic applications. We have found it stated in the report of one of the preceding cases that the administration of large doses of sulphate of soda had a marked effect in arresting the hæmorrhage. Was this owing at all to the rapid discharge of serum by copious watery stools?

When we have reason to suspect any scorbutic tendency in the patient's constitution, the use of lemon-juice and of other vegetable and mineral acids, should, as a matter of course, be adopted.—*Archives Generales.*

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REMARKS ON SPASM OF THE GLOTTIS. INFLUENCE OF ENLARGEMENTS OF THE THYMUS GLAND.

This affection has, it is well known, attracted great attention since the publication of Dr. Ley's elaborate work on *Laryngismus Stridulus.* Among the causes of this obscure malady, there is one which hitherto has been much overlooked in this country, (Britain,) but which has been repeatedly insisted upon of late years in Germany—we allude to an enlarged or hypertrophied state of the thymus gland.

This form of the disease is in truth the "*asthma thymicum*" of continental writers. Before Dr. Ley propounded his ingenious speculations as to the influence or *modus operandi* of swellings of the cervical glands in inducing spasmodic affections of the larynx, it was supposed that the mere pressure of the enlarged thymus gland acted directly by contracting the passage of the air-pipe.

The difficulty however of explaining a paroxysmal disease by reference to a permanent organic alteration was always felt; and we therefore applaud Dr. Kyll, the author of a very excellent paper on spasm of the glottis in a recent number of Rust's Magazine, when he attempts to show that enlargements of the thymus gland operate rather *indirectly* by pressure on some of the laryngeal nerves, than *directly* by contracting the passage of the larynx itself. We are so entirely ignorant of the functions and uses of this gland, that we cannot indeed hope to arrive at any very satisfactory views of its pathology. Whether enlargements of its structure may act in other ways, besides that of mere mechanical pressure, in inducing laryngeal and some cephalic affections, we cannot say; but of this we are assured from the results of our own experience, that in not a few cases of convulsions and of rapidly fatal hydrocephalus* in infants, the thymus is found extremely hypertrophied, and occasionally charged with an unusual quantity of milky serum throughout its tissue.

We may, *en passant*, allude to the frequent co-existence of lesions of the heart, with hypertrophy of the thymus gland—a complication, which will account for the extreme tendency of children so affected to convulsive disease of all forms.

The following case of excessive *hypertrophy of the thymus* will be read with interest.

A fine healthy infant, six months old, awoke most unexpectedly from a long

* Whether the enlarged gland acts, in this case, by compressing the jugular veins, and thus retarding the free return of the blood from the head, is doubtful. Certain it is that many forms of dropsy of the thorax, and more especially of the abdomen, are referrible to such a cause—venous compression.

sleep, with all the symptoms of spasm of the glottis: these continued for two or three minutes and then ceased, so that he fell asleep again, and was as well as usual next morning.

A similar paroxysm returned for many nrghts successively; and, in the course of a short time, these attacks became more frequent and of longer duration, and the child was occasionally seized with them during the day, more especially after laughing, crying, &c. &c. The disease was attributed to teething. Two months after the first attack, Dr. Kyll was summoned one night, in consequence of an unusually severe paroxysm, followed by general convulsions, which lasted for upwards of an hour. The head was hot, and the carotids were felt beating with great violence. The symptoms never fairly gave way, or yielded to the remedies employed; and the child died on the 10th or 11th day after this last severe paroxysm.

On dissection, the thymus gland was found enormously enlarged; it covered all the anterior part of the chest, and extended from the larynx downwards as low as the diaphragm. The lungs and pericardium were quite concealed by it, and it firmly compressed the jugular veins at their termination: its weight was upwards of 13 drachms The jugular veins in the neck were manifestly dilated. The right cavities of the heart were soft and enlarged; and the left ventricle, on the contrary, was thicker and firmer than usual. The vessels of the brain were gorged with dark blood, and the ventricles contained a quantity of serum.

It is quite evident that the hypertrophy of the thymus was the primary disease in the present instance, and that the convulsive and hydrocephalic symptoms were attributable to it.

We have already said that spasm of the glottis may be owing to several very different causes—such as inflammation of the encephalon, or some other form of cerebral irritation; inflammation of the medulla oblongata; dentition; a tumefied state of the cervical lymphatic glands; hypertrophy of the thymus gland, &c.

As a matter of course, each variety of the disease has certain peculiar or diagnostic symptoms, which may assist the cautious physician in determining the genuine character of the case.

Thus in the *cerebral*, and also in the *medullar* variety of the affection, there are always some precursory signs, which will indicate the existence of irritation at some point of the nervous centres: for example, there is a feverish heat of the head, with quickened pulse, general restlessness, tendency to convulsions, irritability of the stomach, and, in one of the forms, tenderness perhaps of some point of the spine.

When the disease is connected with an enlarged state of the glands of the neck, the child will be usually found to be of a scrofulous temperament, weak, subject to cough, and derangements of the stomach and bowels, &c.

It may now be asked, if there are any symptoms which indicate an hypertrophied state of the thymus gland. Fingerhuth is of opinion that auscultation affords considerable assistance in the diagnosis of this affection. He says that, when this gland is much enlarged, the extent and force of the respiratory murmur over the upper and fore part of the chest are considerably impaired, but we feel convinced that not much value can be attached to this sign; for, independently of the extreme uncertainty which attends all auscultatory explorations in young children, the diminution of the respiratory murmur over the space indicated may be discovered in many cases, where there is not the slightest symptom of disturbed health. Some writers have alleged that enlargements of the thymus gland are usually accompanied with a displacement of the heart *dextrad*, and therefore that its pulsations are to be perceived more towards the right side than in health. But this sign also is utterly valueless. Perhaps more assistance in the diagnosis of the case may be derived from attention to the follwing circumstances. The children, affected with hypertrophy of the thymus, are usually subject to a dyspnœa more or less permanent; the attacks are more frequent when they are lying on their back; the tongue is often observed to be protruded from the mouth, even during sleep; and percussion over the *thymic* region yields a dull sound, similar to that elicited by percussion over the region of the liver.

Whatever be the cause of spasm of the glottis, our *prognosis* should always be very guarded; for a fatal termination may most unexpectedly occur at a time,

when the child seems to be in perfect health. If the spasm continues beyond a minute or two at the utmost, life will be extinguished, whatever the cause of the spasm may have been.

We do not propose at present to make any remarks on the treatment of this very interesting disease, as we should thereby far exceed the limits of this notice. It must be obvious that the treatment must vary very much, according to the cause of the disease, the temperament of the patient, and so forth.

To those, who may wish to pursue the literary history of this affection, the following catalogue may be useful.

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RESEARCHES ON THE CAUSES OF ABORTION.

By Madame Boivin.

Madame Boivin—the distinguished *sage-femme* of Paris, Doctor of Medicine, and chief inspectress of the Royal Maison de Santé, &c., has recently published some excellent remarks on "One of the most frequent and least known causes of abortion." Her researches have been evidently conducted with great skill and fairness, alike in the examination of the symptoms during life, and of the morbid appearances found on dissection. We cannot do better than report two or three of her illustrative cases, for the purpose of pointing out the nature of the *cause*, which in her opinion gives rise so frequently to miscarriages.

"Madame Kall, twenty-seven years of age, mother of three children, was seized with pleuritic symptoms after exposure to cold. Miscarriage came on: the fœtus was about five months old. She died on the 10th day after the commencement of her illness.

Dissection. (We shall confine our remarks to the state of the uterus and its appendages.) The broad ligaments, the Eustachian tubes, and the ovaries, were grouped or matted together, and adhered to the posterior surface of the uterus. The adhesion was so close, as to require the use of the scalpel to sever it. In the conglomerated mass numerous small tubercles, varying in size from a millet-seed to a pea, were discovered.

It is evident that, *such being the condition of the uterine appendages, the womb could not expand and develop itself, but with extreme difficulty.* Abortion must

therefore have come on, although no affection of the chest had supervened. The uterine ligaments being morbidly affected could not readily expand and yield to the gradually-increasing distension of the womb: their resistance became the cause of excitation, and a miscarriage was the consequence."

From these short details our readers will be able to understand the reasonings of Madame Boivin, as respect *one of the most frequent and least known causes of abortion.* She adduces many other examples to prove the existence of some morbid change of the uterine appendages in cases of miscarriage. This change, whatever may be its character or appearance on dissection, seems to be almost always the result of some slow unhealthy inflammation. In some cases, the agglutination of the uterine appendages is found associated with the formation of purulent deposits between the uterus and rectum. Such cases usually occur in scrofulous subjects.

It may now be asked, is there any method of ascertaining, or even of suspecting, the existence of a morbid change in the uterine appendages during life? and, if so, are there any remedial means to remove it?

We must confess that the diagnosis of such a disease is always most difficult and uncertain. The following symptoms may, however, be mentioned as, to a certain degree, indicative of its presence. Menstruation is usually attended with severe pain and suffering; there is often a continual bearing-down and sense of dragging as well during menstruation as during micturition; the evacuation of the bowels too occasions the same feeling; there is often an acute or a dull oppressive pain in one or both groins, extending upwards to the loins and downwards to the limbs; and there is always more or less of leucorrhœal discharge.*

With respect to the treatment of such cases, Madame Boivin informs us that the local use of mercury—the inunction of the mercurial ointment on the groins, thighs, &c.—continued so long as gently to affect the system, will often succeed, not only in restoring the health of the patient, but also in removing the tendency to subsequent miscarriages.

Madame Boivin does justice to Dr. Granville of London, in giving him the credit of having suggested this practice in his "Obstetrical Report of the Westminster Dispensary," published many years ago. Dr. G. adduced several cases, which very satisfactorily proved that the tendency to miscarriages may very often be checked by the *mercurial treatment*, in the way of inunction.

The other remedy, recommended by Madame Boivin, is the hydriodate of potash.—*Recherches sur l'Avortement, par Madame Boivin.—Med. Chir. Rev.*

IRREGULARITIES OF THE BOWELS,

A FREQUENT CAUSE OF UTERINE AFFECTIONS. PERNICIOUS EFFECT OF A BOARDING-SCHOOL LIFE.

(Medico-Chirurgical Review.)

Many, if not most, of the troublesome affections of the uterus and of the rest of the generative organs are attributable *primarily* to derangement of the gastro-intestinal functions. This is especially apt to be the case in young females of a lax, lymphatic and scrofulous constitution: their appetite is usually irregular, and often bizarre, and their bowels are almost always sluggish and constipated. The system of education pursued in the present day unfortunately fosters, if it does not actually occasion, this state of things.

* There is one very important symptom to be ascertained by manual examination, which especially merits the attention of the physician—we allude to the frequent partial displacement of the neck and orifice of the uterus, and to the *diminution of its natural mobility*, when pressure is made on it by the finger.

The following remarks by Madame Boivin appear to us highly interesting: "As in the morbid affection of the uterine appendages it is rare that the womb retains its normal degree of mobility, it is therefore of great importance in all cases of irregular menstruation, or of obstinate leucorrhœa, to determine if the womb, independently of the healthy condition of its orifice, preserves all the freedom of movement which results from the normal state of its ligaments, and of the ovaries and Eustachian tubes."

Little or no attention is paid in any boarding-school to the *physical education* of the girls: their occupations are almost all sedentary; their minds are much more exercised than their bodies; and even the very amusements, which are allowed them, are subjected to as strict a discipline as their regular studies. They become poor, feeble, pale creatures; their catamenial discharge is never quite healthy nor regular; and, when they become married, they either become the victims of frequent miscarriages, or else their offspring is puny and miserable.

When we consider that all the girls of a boarding-house are, without regard to difference of age or constitution, subjected to the same discipline, made to eat the same food, and altogether drilled in the same manner, how can we be surprised that so many of them, on leaving the establishment, return home with the seeds of much suffering and ill-health, deeply laid and ready to burst out when Nature designs them for the more important functions of their sex.

Of all the evils of a boarding-school life, perhaps none is so essentially pernicious as the neglect—arising from a variety of causes—of a regular action of the bowels. Almost every girl in such establishments suffers more or less from constipation. As they approach the age of puberty, this disposition becomes more confirmed; the abdomen becomes fuller; the large intestines especially acquire greater size; the pelvis is now more capacious—all these physical changes induce a greater tendency to extreme inaction of the bowels, and to the consequent accumulation of large quantities of fæcal matter in their cavities.

Now no portion of the intestines is so apt to suffer from this influence as the sigmoid flexure of the colon and the rectum. Independently of the injurious effect of alvine accumulations on the general health, the distension of the lower gut must necessarily cause a compression and a consequent congestion of the hæmorrhoidal vessels; the blood is thus obstructed in its free return. Hence the circulation not only in the rectum, but also in the uterus and its appendages, becomes gradually more or less deranged; thus laying the foundation for many of the most obscure and unmanageable affections of the uterine system—such as obstinate leucorrhœa, tendency to miscarriage, &c., &c. Many cases of nymphomania also are attributable to this same cause. The irritation extends from the rectum to the vagina and vulva; and hence, unless proper means are employed to remove the primary evil, all local palliatives to the seat of the distress are delusive and unsatisfactory.

If such be the state of health before marriage, many circumstances, mental, as well as corporeal, occur afterwards to aggravate, at least very frequently, the morbid disposition.

What with fatigue of body, disquietude of mind, the excitement from sexual intercourse, &c.—all these causes tend to induce either a feverish irritability, or a langnid congestion of the whole system.

As a matter of course, the organs which had been weak and ailing before, suffer most; and thus we may account for the numerous diseases of the uterine system which we meet with in the present day, more especially in large towns.

Mad. Boivin remarks:—"The state, into which the whole organization has fallen in such cases as we have been alluding to, gives rise to irregular and diseased secretions, and to various morbid growths and degenerations of tissue, especially in the mammæ, and in the uterus and its appendages."*

Having thus explained her views respecting the morbid tendencies of the uterine system, our authoress goes on to observe:—

"I do not agree with those who believe that pregnancy, miscarriages, and difficult parturition are the most frequent cause of the diseases of the uterus. I am rather inclined to adopt the reverse of the proposition, and to assert that *certain morbid states*—the etiology of which we have explained above—of *the uterus and its appendages, are the most frequent causes of premature and abortive labours.*"—*Researches sur l'Avortement, par Madame Boivin.*

* We have had occasion, says Mad. B., to see fine young women, who exhibited all the characters of maidenhood, extremely subject to catamenial irregularities, and each labouring under a schirrhous affection of the mammæ. Three of these patients were operated upon by the Baron Dubois: their respective ages were 22, 25, and 38.

BRONCHOCELE REMOVED BY CROTON OIL.

This effect of croton oil rests, as yet, on a single case. A native Indian, who was goitrous, became affected with laryngitis, and Dr. Campbell (of Nepal) applied a liniment to the throat, composed of one drachm of croton oil to two drachms of olive oil. A crop of pustules came out, when the aphonia and laryngitis were removed. In fifteen days more the goitre, which, however, was small, soft and elastic, also disappeared.—*Calcutta Transactions.*

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CAUSE, STATISTICS, AND TREATMENT OF BRONCHOCELE.*

After giving a short description of the thyroid gland and bronchocele, Dr. Inglis proceeds to consider the various causes of the disease assigned by different authors. That bronchocele is not caused by snow water, he conceives, is proved by the facts, that in Greenland and Lapland, where it is commonly used, the disease is never met with; that in Scotland and Westmoreland, where the mountains are higher, and the snow more abundant than in Derbyshire, it is almost unknown; and that at Edmonton Dr. Richardson found it attacking those only who drank from the waters of the river, while those using melted snow or water from the small rivulets flowing through the plains were exempt from it. The next most commonly received cause of bronchocele has been the earthy impregnation of the water. The facts in favour of this view are, that in Geneva, the disease is speedily induced by the use of the hard or pump water of the lower streets, that in Nottingham, where the disease prevails, the waters are impregnated with the sulphate of lime, in Derbyshire, with the supercarbonate of lime, at Studley and around Ripon with the supercarbonates of lime and magnesia, and a small portion of the sulphate of lime; that in the valleys of the chalky parts of Hants and Sussex the disease is of frequent occurrence, &c. After answering the objections made to this theory, and examining some other views which he considers untenable, Dr. Inglis comes to the conclusion, that in all districts where bronchocele prevails, lime, in some form or other, is to be detected in the waters. "I cannot say, however," he continues, "that in all lime districts goitre prevails; on the contrary, I know that it does not in many places, where the blue vitrified mountain limestone is very abundant. Nevertheless, I think I am correct in supposing, that the presence of the *magnesian limestone* always predicts the co-existence of the disease. Take, for example, that ridge of magnesian limestone running from north to south through the centre of Yorkshire and margining the shires of Derby and Nottingham. All along that line we have goitre to a very great extent; whereas on our diverging to either side, the disease is found to diminish. The towns situated on that ridge are Nottingham, Alfreton, Chesterfield, Rotherham, Ackworth, Pontefract, Abberford, Wetherby, Knaresborough, Boroughbridge, and Ripon. After this the magnesian limestone dips, then reappears in the county of Durham; it continues its course almost due north from Darlington to South Shields, where at Tynemouth it meets the sea. In many of these towns I know goitre prevails, in the others I should suppose it did, excepting where we approach within the influence of the sea, when the morbid action would be counteracted." To this he is inclined to add hereditary predisposition, and perhaps the sympathy of the thyroid gland with the uterus.

Respecting the statistics of this disease, Dr. Inglis cites the following facts. In Germany, the number of males attacked by the disease is stated to be about 15 per cent. Prosser mentions a village in Derbyshire where there were fifty girls labouring under the disease, and he never knew a single instance of it either in a man or a boy. At the Hampshire County Hospital in ten years, 49 goitrous patients were admitted, one of whom only was a male. At the Chichester Dispensary and Infirmary, of 70 admitted in nine years, two were males. "At Bishopton Grange, near Ripon, the number of goitrous cases treated by Dr.

* From a Treatise on English Bronchocele, by James Inglis, M. D., Physician to the Ripon Public Dispensary, &c., 1838.

Paley, within the last nine years, amounts to 111. Of these six only were males." The patients of the Ripon Public Dispensary for three years were 19, of whom two were males. At Pontefract Dispensary, of 60 patents two were males. These returns of course do not show the proportion of the sexes affected with bronchocele, though they enable us to form some notion of the proportion of those requiring relief for the disease. The following table exhibits the proportion of bronchocele to other diseases demanding medical treatment:

Institutions.	Total cases.	Bronchocele.
Bishopton, (10 years,) -	5054 -	111
Ripon, (3 years,) -	993 -	19
Halifax, (about 22 years,) -	62228 -	242
Ackworth, (7 years,) -	4139 -	60
	72414	432

In the treatment of bronchocele Dr. Inglis prefers, even to the weakest tincture of iodine, an aqueous solution of the hydriodate of potassa, hydriodate of iron, or iodine, rendered more soluble by the presence of a salt, such as the nitrate of ammonia, the hydrochlorate of soda, or the hydriodate of potassa. He supposes, however, the ioduret of iron to be the best, in consequence of the influence which he, in common with Dr. A. T. Thomson, conceives it exert as a tonic. Should the tumour be soft, small, and recently formed, the internal use of this will be sufficient. If, on the contrary, it be hard, large, and of long standing, he recommends an ointment, composed of half a drachm of the hydriodate of potassa, a scruple of iodine, and an ounce of axunge, to be rubbed in twice or thrice a day. If it resist this treatment, he has seen great benefit from the application of half a dozen leeches three or four times, at intervals of four or five days, the ointment being again rubbed in when the wounds caused by the leeches have healed. Should still no abatement in the size of the tumour take place, at the end of three weeks, he recommends us to intermit the remedies for a short time, apply a blister, and, in a fortnight, to have recourse again to the medicines. In obstinate cases, electricity often stimulates the gland to activity, and assists the action of the iodide of iron.—*Edinb. Med. & Surg. Jour.*

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VICARIOUS MENSTRUATION.*

A case of this kind occurred to Dr. Law in Sir P. Dun's Hospital, Dublin.—"Mary Murphy, aged 21, had been in bad health and subject to distressing headachs previous to her admission into hospital. During her stay she missed a menstrual period, and was shortly after attacked with hemorrhage from both ears, which was repeated at intervals of from three to five nights, each lasting some hours. Very often from fifteen to twenty ounces of blood were collected, which did not coagulate, neither did blood taken from the arm. By suitable treatment the system was strengthened, and the intervals between the bleedings increased, but the discharge, though thus modified, still persisted, and she left the hospital. After her departure, she was attacked with vomiting of blood, to a certain extent superseding the evacuation from the ears, which only occurred once or twice a month. She returned to the hospital in consequence of this new symptom, and continued in the same state for some time, with some effect at menstruation; but at last the sanguineous discharge was supplanted by severe diarrhœa, which, having relieved the other complaints, was itself cured by opium. The quantity of blood lost must have been enormous, and it is not a little remarkable, that none of the *sequelæ* of severe hemorrhage occurred."—*Idem.*

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ENDERMIC MEDICINE.

This method of administering drugs may be considered as quite recent; for though some hints on the subject are to be found in the writings of the Greek

* From Dr. Churchill on the Principal Diseases of Females, 1838.

physicians, it can hardly be said to have been practically adopted until about ten years ago, when Bally published the result of his experiments. According to him, medicines are more powerful when applied as near as possible to the origin of nerves, and upon a great number of small surfaces, than if placed upon a single large on. Injurious effects are counteracted by removing the drug and applying a cupping glass to the exposed surface. He chiefly experimented with narcotics, and thought that the effects were clearer than when they were administered internally. Lesieur tried several remedies, and found that the choice of the spot was a matter of indifference.

Sect. I.—Method of applying the remedies.

Removal of the epidermis.—The cuticle must be destroyed, in order to reach the rete mucosum, where the skin has the power of assimilating. For this purpose, Bally, Lesieur, and Lembert, employed blisters; but to produce the effect more rapidly, Lesieur recommended the use of cotton dipped in sulphuric acid, of hot water, ammonia, or strong acetic acid; or grazing the part with the bistouri. Lembert always preferred blisters. Hoffman introduced the drugs into leech-bites, or incisions in the skin—a method which he afterwards gave up. At a later period he preferred dipping a knife or a knitting-needle into boiling water, and then pressing it against the skin so as to cause excoriation. The spots for introducing the drugs were to be frequently changed. Dr. Richter rubs the spot with a solution of caustic ammonia, and places a blister over it; and, after applying the drug, puts on a bandage with a suitable ointment.

Number of spots.—A single spot, provided it is relatively large, is usually sufficient. Bally, however, recommends several small ones, and so does Trousseau in rheumatic affections.

Choice of the part.—A spot is to be chosen, where the cuticle is easily destroyed, and where absorption is the strongest, at the same time that it is as near as possible to the seat of disease. In nervous maladies the neighbourhood of the central organs is to be preferred; but if in nervous maladies, a more local effect is intended, a spot more remote from the central organs must be selected; this holds good especially of narcotics.

Time of continuing the application.—In general, the effect soon shows itself; and therefore on account of the secondary effect of remedies, this method must not be continued long. It is only when the result of the first trial is advantageous that it may be repeated.

Form of the remedies.—The vegetable alkalöids, particularly the soluble ones, are the most efficacious endermic medicines, and these are best applied in the form of powder. When the doses are small or difficult of solution, it is well to add a little sugar, and to dissolve the whole upon the exposed spot with a drop of water. Dr. Richter previously dissolves resins in a little spirit, and then puts them on a bit of linen spread with simple ointment. Very irritating substances are advantageously enclosed in a mass of plaster, or placed between folds of thin linen or gauze.

Dose of the remedies.—The more soluble the substance is, the smaller must be the dose to begin with; and this is especially true of narcotics. With them the commencing dose should be only one-eighth, or, at most, a quarter of a grain; and less, if the patient is a child, or if the medicine is applied in the neighbourhood of the brain or spinal marrow. With other remedies, which do not act directly upon the centre of the nervous system, we may be bolder, and particularly if they are not easily soluble. Whether they are to be repeated, depends on the effect and the disease.

Effect of the remedies.—This is divided into the local and the general. The first is the result of the irritation of the spot in the skin by the remedy, and appears to be more or less inflammatory, and even caustic. It is necessary that this irritation should be moderate, that the power of absorption may remain; a more violent degree is mitigated by warm poultices. The general effect has hitherto been observed only in the case of narcotics. When other remedies are

administered, no particular effect appears in systems or organs, or only a specific one, shown by the direct removal of the disease, as from quinine in ague. Narcotics act quicker through the skin than through the stomach, but do not affect the central parts of the nervous system so soon. They do not act upon the vascular system until narcosis has been produced. No other remedies show their effects until after a longer application. When remedies are applied to the skin, the intermediate agents in producing the effects are the superficial nerves and the absorbent vessels.

Application of the remedies.—The endermic method is most efficacious in cases where the passage to the stomach or the intestines is obstructed, or where, from diseases of these parts, remedies cannot be administered internally; and also when we wish to avoid secondary effects, such as excitement of the vascular system. As narcotics have hitherto shown the greatest activity, the method is particularly applicable in purely dynamic and idiopathic pains, which have no material foundation, (especially in the central organs); but have their seat in the superficial nerves. Nevertheless, time must not be trifled away in this manner, if there is a more certain mode of cure, otherwise we should not only be guilty of a fault of omission, but should injure the patient directly.

Sect. II.—Effect and application of the several remedies hitherto introduced by the skin.

Morphia.—The primary soothing effect of morphia (which takes place more rapidly when applied externally than when administered by the mouth) is not caused by absorption through the skin, but by a continuation of the excitement of the superficial nerves, influenced, however, by the vicinity of the spot to the affected part. If the application is long continued, it passes through the absorbent vessels into the mass of fluids, and thus by its secondary effect on the vascular system, produces a narcosis which lasts longer than when it is swallowed. This may be explained, if we consider that when morphia is introduced into the stomach, nature makes an attempt in the vascular system to counteract the poison, and thus the storm in the nervous system is quelled; whereas, this is the seat of the poisonous excitement when the drug is applied through the skin. As it is uncertain how great may be the sensibility to this remedy, it is advisable, particularly if it is introduced near the central organs of the nervous system to begin with small doses, such as from $\frac{1}{8}$th to $\frac{1}{4}$th of a grain a day. Its effects must be observed, and the quantity gradually increased; but the application must be discontinued as soon as headache or giddiness comes on.

Acetate of Morphia.—This preparation has been preferred on account of its solubility, and the mildness of its effects; and when properly combined and rubbed in, it has shown its powers, even though the cuticle had not been removed. It has been particularly used.—1. In trismus and tetanus, especially when caused by external injuries, or by mental affections, in which cases it has been used by Lembert, Cerioli, and Romberg. 2. In spasms without a material cause. 3. In poisoning by strychnia. 4. In diseases of the respiratory organs, namely, chronic catarrh, chronic bronchitis, and phthisis, by Lembert, Lesieur, G. H. Richter, and Romberg.

Dr. Richter found it most efficacious, when all inflammatory irritation had been removed, in pulmonary catarrh, inflammation of the larynx, trachea, bronchi, or pleura, and even in pneumonia, at the end of the second stage, when the secretion in the respiratory passages had abated, and the patient was tormented by a spasmodic cough. 5. In hooping-cough. Here, in general, the results have not been favourable. Berndt, who used it most frequently in this disease, found it had no effect unless when pushed till it began to produce narcotism. Dr. Richter has not applied it, but says it is to be introduced in the cervical region, as Romberg has proposed. 6. In rheumatism. Here it has been advantageous, when there was neither fever, inflammation, complications, material causes, nor dyscrasia present; for in such cases a previous suitable treatment is required. It was of particular efficacy in fixed rheumatism, without either fever, or gastric compli-

cation, in rheumatic spasm, or tooth-ache, in fixed pleuritic pains, lumbago, and ischias. 7. In neuralgiæ. When they are not caused by inflammation or material irritation, but are purely nervous affections, they offer an extensive field to the endermic application of this drug. 8. Dysuria, when purely spasmodic, has been successfully treated with it. Mr. Richter intends in future to use camphor, either alone, or combined with morphia. 9. In vomiting, it has been advantageously employed when there was spasm and increased irritability of the stomach and intestinal canal; in scirrhus of the pylorus, its external application as a palliative was more beneficial than its internal use. 10. In delirium tremens. Here the advantages resulting from its employment, as witnessed by Gerhard, would incline one to use it in the cases in which the internal use of opium is indicated. 11. In dysentery. It was advantageously employed by Gouzée, and Dr. Richter advises it in the second stage. 12. In cholera, Hübenthal, of Riga, has seen it quiet the vomiting better than when administered internally. 13. In cancer of the uterus it acted as a palliative, according to Lembert. 14. In intermittent fever it is recommended by Dr. Richter, in those cases only where the disease appears as a purely nervous affection.

Sulphate of morphia.—Hofmann and Gerhard prefer this preparation to the acetate, on account of its greater solubility. The former used it in periodic ophthalmia, hysteric attacks, chronic rheumatism of the joints, hooping-cough, spasmodic cough, and cancer of the uterus; but his results show that far from being better than the acetate, it is inferior to it.

Hydrochlorate of morphia.—Trousseau and Bonnet, in consequence of the favourable results of their trials in rheumatism, give the preference to this salt of morphia, like the former one, on account of its greater solubility.

Effect of opium applied to the skin.—Dr. Richter supposes that when the endermic method is employed with children, opium may be better than the preparations of morphia. By combining opium with quinine in this way, he cured an obstinate intermittent neurosis.

Strychnia.—Pure strychnia, and its nitrate, sulphate, and acetate, have been used, and seem to have been employed promiscuously. They first acted as stimuli to the nerves of motion, then on the sensorium, and lastly on the vascular system. The effect was not so violent as when swallowed; yet, according to G. H. Richter's experiments, they require the greatest caution. The commencing dose is to be from one-eighth to one-sixth of a grain daily, which is to be discontinued as soon as twitchings, or even headache and giddiness come on; and acetate of morphia is always to be at hand, being the strongest antidote. Strychnia and its preparations must never be used with children. Dr. Richter found the extract of nux vomica uniformly advantageous in paralysis of the extremities, when it had come on after taking cold severely, without the existence of organic disease of the brain or spinal marrow, and particularly in what is called spasmodic paralysis; and so did Bally, Lembert, and G. H. Richter, when the paralysis arose from poisoning by lead. In G. H. Richter's practice, too, it cured a case of paralysis of the vocal organs, produced in a hysterical woman by taking cold. It was also efficacious in paralysis of one half of the face, in idiopathic amaurosis, and in neuralgia; but in St. Vitus's dance it was powerless. On the whole, it is useful only in purely dynamic nervous diseases, when sensibility and irritability are lessened. Dr. Richter suggests the endermic administration of brucia.

Extract of belladonna.—Dr. Richter has found this useful in spasmodic affections of the thoracic organs, and of the stomach, in which he applied a solution of a scruple of the extract of belladonna in two drachms of cherry-laurel water, with a hair-pencil. He recommends it in the catarrhal affections of very irritable persons—in the second stage of inflammatory catarrh of the chest—in inflammation of the pleura, the lungs, the bronchi, the trachea, and the larynx—in paroxysmal or purely spasmodic cough—and in neuralgia.

Saffron.—There is one favourable instance of its employment recorded by Lembert, but as substitutes of it are easily found, Dr. Richter has not tried it; nor has he made use of musk or assafœtida. More favourable results may be

expected from daturia, aconitina, hyoscyamia, lactucina, delphinia, solanine, brucia, and veratria. The last has been rubbed on the sound skin in the form of ointment.

Stramonium has been found very useful by Recamier and Trousseau in obstinate neuralgia. It is not so apt to excite nausea and vomiting as the acetate of morphia.

Quinine.—The sulphate and acetate of quinine have been employed; they were not inactive, but seemed to have no tonic effect, nor, indeed, any other one, until the intermittent disease ceased through their agency. Topically, quinine acts almost like a caustic. It has been used chiefly in intermittent fever, particularly by Berndt, and its favourable results have been obtained more especially in children. Dr. Richter recommends its use where great irritability of the stomach, idiosyncrasy in respect to internal remedies, diseases of the organs of deglutition, or inflammation of important organs, forbid its employment internally; as also in children, on account of its bad taste. Other observers give the dose as being from three to eight grains, but Dr. Richter says only one. This remedy has also proved beneficial in different kinds of pain of the face.

Salicine is a very uncertain remedy in ague, and *piperine* may be equally dispensed with.

Aloes.—Lembert, Gerhard, Romberg, Monro, Hofmann, Naterp, Wiesbach, and Magnus, allege that this remedy acts endermically as a purgative; but their authority is not confirmed by Dr. Richter.

Jalapine was applied in doses up to twelve grains, but without effect.

Gamboge.—Gerhard says that he has seen good effects from this remedy, both alone and in combination with aloes; while Dr. Richter has not seen any effect from either.

Croton oil, whether rubbed on the abdomen or applied to the exposed cutis, was most uncertain in its effects, and should not be used endermically, from its being apt to cause erysipelatous inflammation. Neither rhubarb, extract of colocynth, nor elaterium, produced purging.

Calomel is said, by Bally, to have been useful in yellow fever and syphilis; and Lembert, Gerhard, Jahn, and Romberg, bear witness to its effects; yet, according to Dr. Richter, it is inactive. He proposes the trial of the black oxide of mercury, and the weaker mercurial ointment, as being more easily absorbed.

Iodine has been tried by Gerhard and Coster, and, according to the latter, is useful in dropsy. Dr. Richter would have it used only where its internal action upon the stomach, &c. is to be avoided.

Oxide of zinc.—Dr. Ritchter says that Hofmann's experiments on the antispasmodic powers of this preparation must be considered as simply negative.

Kermes mineral.—Dr. Richter has sometimes seen this remedy produce expectoration, but never either vomiting or increase of perspiration—effects which occurred in the experiments of Lembert, and G. H. Richter.

Tartar emetic.—Dr. Richter could not perceive the purging and diaphoretic effects attributed to it by Lembert, nor the emetic power observed by Gendrin.

Emetine.—Gerhard alleges that he found the impure preparation* very active, but Dr. Richter's experiments did not confirm this.

Squill.—The diuretic effect of this remedy seems to come on when it has been continued for several days in a proper dose; but the irritation and pain which it causes are adverse to its continued administration.

Digitalis more frequently acted as a diuretic; but, like squill, it was soon necessary to discontinue its use, on account of its irritating effects. Perhaps it may be of some benefit in organic diseases; and *digitaline* also deserves to be employed as a diuretic in dropsy.—*From a review of Dr. A. L. Richter's work, entitled, "Die endermische Methode," in Schmidt's Jahrbücher*, June 9, 1838.

*This is otherwise called coloured emetine; the pure preparation being white.—Translator.

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QUACKERY AND ITS REBOUND.*

WE were prevented by want of room from making some remarks on the strangely unprofessional course of conduct pursued by Doctor Granville, in his work entitled *Counter-Irritation*, &c., in which, whilst he blazons forth his wonderful cures, he studiously conceals the composition of the chief agent by which they were alleged to be wrought, viz: his *antidynous lotion.* Little did we imagine that, before the lapse of another month, we should have to notice an imitation and, if possible, an exaggeration of the revolting absurdities of the London physician by a practitioner of medicine in Philadelphia. Of the fact, however, of this reflex operation of quackery—this sympathetic love of notoriety on any terms, the pamphlet, the title of which is given at the foot of this page, furnishes a too painful proof.

Repeating the language of the *British and Foreign Medical Review*, in its opening remarks on Dr. Granville's work, we would say of the present hybrid production: "The task of noticing a work of this kind is the most disagreeable that can possibly devolve upon a reviewer. To pass it over entirely would be dishonest; to speak of it with approbation is impossible; and to speak of it as it deserves would be to employ severer language than we wish to use. If the first impressions conveyed by the general aspect of the work, and an inspection of its divisions and headings, were to be taken as truly answerable to its design and end, we should pronounce it an ingenious but unblushing advertisement of a secret remedy; and, as such, out of the pale of respectable medical literature." So far the reviewer preserves the style of expression, becoming his vocation. But, all at once, he halts in his conclusions; and, from false delicacy to the subject of his strictures, he assigns as a cause for forbearance that which is actually an aggravation of the offence. He hesitates to denounce in fitting terms the imposture, for no other word is so applicable to quackery in all its phases and colours, because forsooth Dr. Granville is "a writer whose ability, education, experience, and station in society, all force upon us the admission that a purpose inconsistent with the principles commonly held to be honorable by the medical profession, must be the last he could entertain." Neither ability nor experience is a safeguard against empirical indulgences if a proper sense of ethical fitness be wanting; nor will collegiate education nor station in society supply the want of this sense and the habits which it induces. They show, indeed, that a man so circumstanced is less under temptation to err in this way; and consequently that if he do trespass, he is the more reprehensible. Petty vanity, a desire to stand well with the leaders of ton, and wealthy and titled persons, a majority of whom are, by the way, very shallow reasoners, and a love of lucre, will, however, be often strong enough to lead astray from the path of high professional rectitude, a man whose aspirations are not after true fame, and who is

* Extracts from a work on Counter-Irritation, its Principles and Practice, illustrated by one hundred cases of the most painful and important diseases effectually cured by external applications. By A. B. Granville, M.D., F. R. S., author of the "Spas of Germany," "St. Petersburg," &c., &c., &c., with introductory remarks. By T. J. Crossman, M.D.

not sustained, even in adverse fortunes, by the consciousness of well doing. Doctor Granville, in his Travels in Russia, published a few years ago, evinced one of his dominant foibles with sufficient distinctness; viz. his eulogy of, and boast of acquaintance with persons of rank and station. Nor have we seen, since then, any proof of a more purified ambition, or greater self-denial, which would prevent our feeling particularly surprised at his recent exhibition.

What was unquestionable empiricism in London can hardly be sublimated into good medical ethics and a philanthropic endeavour in Philadelphia—nor can the medical quack of the former city, even though a travelled fellow of the Royal Society, be more qualified for professional company, by an introduction on the part of his imitator and sympathiser, of one whose sole merit, as far as we can see, consists in exaggerating and caricaturing the obnoxious traits of his original. Doctor Granville manufactures a lotion, the active basis of which is liquid ammonia, and which he calls antidynous. The relief caused by its application is said to be almost "magically rapid." All pain ceases, not only in the parts nearest to the application, but also in the most remote parts of the spinal column. This occurred in one case in thirty-five seconds; and yet without heat, much less rubefaction, in the time mentioned. The effect might possibly be produced, Dr. G. admits, by absorption of the volatile particles of the ingredient used, or their transmission along the sheath of the implicated nerve, after the manner of the electric fluid. Doctor Granville backs his assertion of the superiority of his treatment by announcing a hundred cases of cure.

Doctor Crossman, his *fides Achates* in Philadelphia, we ought rather to call him the Castor to the English Pollux, the other Dromio, announces his having improved the antidynous properties of the counter-irritating lotion of Dr. Granville. He adds: "I here wish it to be distinctly understood, however, that the counter-irritating, revulsive, derivative, and vesicating qualities are the same as Doctor Granville's; but the antidynous powers of the antidyne I now employ is highly improved." We give both the logic and the grammar of Doctor Crossman, who tells us, moreover, that he has used the wonderful lotion in about three hundred cases, with a success that is perfectly astonishing and unparalleled. Like his English prototype he admits its *modus operandi* to be perfectly unexplainable, and echoes the gallimatia about absorption of volatile particles, or their transmission along the sheath of the nerves, like that of the elective fluid along the surface of metallic tubes.

Prose being exhausted, first by Dr. Granville in his adroit and courtly phrases, setting off at the same time both the wondrous powers of his antidyne and the titles and personal and other qualities of his patients, and lastly by Dr. Crossman in every term of eulogy of the grand Lama of counter-irritation, and the ministering Antidyne of ammonia born, far excelling the Undine, or spirit of the waters, which erst gladdened the eyes of our young folks at the theatre, we wait with some impatience for poetry to do her part. A Boileau, a Churchill, or a Pope is wanted, to weave in immortal verse the rich materials furnished by the London and Philadelphia antidynous cases. Then would appear on the stage for exhibition *hysteria*, *spasms*, *convulsions*, *fainting*, *epilepsy*, *apoplexy*, *croup*, *headache*, *toothache*, *neuralgia*, *rheumatism*, *gout*, &c., and all the aches, and algias, and tics, and antics, which frail humanity can possibly put on, or be saddled with. But not in all their startling features would they appear—they

would be introduced by the presiding magicians of the scene, the antidynous inventors and administrators, in the person, sometimes of "the Right Hon. the Countess of ——, or of Lady Caroline ——, a young and unmarried daughter of the Earl of ——; and anon, of "a young lady of Southampton, remarkable for her general appearance of perfect health and personal attraction, lately married;" and next the Duchess of —— in her chamber; and "a noble Earl, not more conspicuous for his station in society, which he has, though a long career, enhanced by great public and private worth, than proverbially known for being at one time the victim of the severest forms of nervous headache." In other instances, the parties are introduced by the master magician, holding up soul-thrilling notes, praying for his attendance on the Countess in Stanhope street. Of the Philadelphia personages in the epic the want of quality is made up by their numbers, and who shall dare to say that three hundred republicans brought out by Doctor Crossman for exhibition, shall not at the least fix our wondering gaze as much as the hundred titled aristocrats paraded by the other Dromio. Of the former we have Mr. B——, "the very gentlemanly and extensive jeweller," and "my most esteemed and distinguished friend Col. ——, late of the Indian Department at Washington, author of Tour to the Lakes," &c., &c. The Colonel writes a letter to our antidynous Doctor, thanking him for the loan of Dr. Granville's admirable work and a bottle of the *antidynous counter-irritating lotion*. He says that he was much enlightened by the book; and that he let the bottle go round among some twenty sufferers as well without as within the circle of his immediate friends.

One original feature in the production of Dr. Granville, we mean his book not his lotion, is, that it is addressed to the general rather than to the professional reader; and hence the public can, we are told, become at once fully acquainted with the "Principles and Practice" of counter-irritation, and apply an infallible remedy for the relief of a large class of diseases which have taxed the careful and continued observation and skill of physicians for a length of time. The poor doctors! How can they stand before the sight of a bottle of the antidynous lotion, which will, forthwith, be presented to their horrified gaze, in every sick chamber, in every nursery, and parlour, and drawing-room, into which they may enter. The inquiry after a lady's health, as to how is your face ache, will be met at once with an arch and playful expression, and the reply, Ah, doctor, you forget the lotion! Mr., how is your rheumatism? My good doctor, you are jesting; the lotion has freed me from that long ago. In place of a bottle of volatile salts or carbonated ammonia, every nervous lady will have her bottle of liquid ammonia, her antidynous lotion ready for herself or friend. With this, and a small piece of linen folded six or seven times, any young lady enamoured of the dance, may fearlessly engage herself to a succession of partners for the whole evening. Whenever her spirits droop, her eyes are heavy, or her head aches, she has but to press on a temple, or on the back of her neck the linen moistened with the lotion, and she is herself again; is ready to enter the lists even with Taglioni, as far as regards vigour and complexity of movement. We would suggest, and we give away the hint freely to any physician who, in imitation of the two illustrious antidynous practitioners, intends to print and circulate a pamphlet with his *five hundred* cases, and a new lotion, that snuff takers should substitute for the vile weed, and the titillation of

their nostrils by it, the occasional electric influence transmitted from the tip of the nasal protuberance to the sensorium by means of a compress of linen dipped in the antidyne, and applied to this part. The waning attention of an auditory, and the lapse into dulness of a speaker, might be alike obviated by this means. The low of speech, and the limping in gait through corns, could be readily cured by simply applying the antidyne, in the first case to the *frenum linguæ*, and in the second to the surface of the toe, after the corn has been carefully pared away.

But why need we presumptuously suggest even a few of the wonder-working powers of this new lotion, since every body can read Dr. Granville's book in the extracts and introduction prepared by the Philadelphia editor. The latter, in imitation of his London model, says that he addresses his pamphlet in a special manner, to the general reader, and that the language, accordingly, is free from technicalities and scholastic definitions. A pleasant proof of this is found in the account by Dr. Granville, of one of his cases, in which he says the lotion was applied with great accuracy to "that part of the chin which corresponds with the opening through which the mandibulo-labialis branch of the fifth nerve comes out." A young lady who reads this for the first time, would be alarmed at the idea of her pretty chin being the seat of things with such rough names. So, also, we must take as an instance of familiar and popular style, tic-douloureux of the two supra orbitar nerves, as stated by Dr. Crossman in one of his cases.

"In no instance," says Dr. C., in speaking of Dr. Granville's lotion, "can any possible injury arise from the use of it. It contains no poisonous ingredients, and is perfectly harmless in its effects. It can be applied by any one who possesses ordinary sagacity, and passable adroitness in his manipulations." As a commentary on this characteristic truthfulness, we mean characteristic of quackery, whenever it either makes a positive allegation or a promise, we will just quote a passage from Dr. Granville himself, who, whilst he asserts that in no instance in which the lotions were applied under his own immediate notice, did he witness the smallest injury done to the part, yet he admits, that on some occasions, "either through design or neglect, and not unfrequently from an inopportune and injudicious use of them by persons unacquainted with their real power, extensive vesication and an abraded ulcerated surface have been produced, where no such results were required or desirable."

The lotion is perfectly harmless in its effects, and in no instance can any possible injury arise from the use of it, says the Philadelphia antidynous Dromio. True, says the London double, but without care and caution it will cause extensive vesication, and a raw ulcerated surface. Need any one press the application of this fact to the question of the propriety, humanity, or decency of telling the general community, that they have a safe and harmless remedy at command, saving and excepting the bad consequences which may result from it. Would any person say more or less, if he were to send round a lotion of the tincture of cantharides, calling it antidynous cantharidin, or tartar emetic ointment, under the more euphonous, or at least sounding title of *unguentum sedativum antimoniale*. These are counter-irritants, which will be found to outlast in medical prescription, all the antidynous ammoniated lotions of all the quacks of London and Philadelphia, reinforced by others of Edinburgh and Paris. In the mean time, however, if any person, gentle or simple, male or

female, will put faith in the asseverations of an unblushing and hypocritical quack, let him or her by all means try the lotion, and experience the same good effect as those lately reported by an antidynous proselyte of this city, on his own person; viz., a raw blister on his back by the use of the lotion, with the removal of a troublesome head-ache on one day, which on the following day had returned as before. But there was no re-exchange of a sound back for a pained head: he had the full enjoyment of both the direct and the counter-irritation. In Case XVI. related by Dr. Granville himself, of a violent and continued pain of the arm, the patient, who had seen the doctor apply an ammoniated antidynous embrocation to a relation of his, took upon himself to use the same while the doctor was absent from town. "In the space of ten minutes, he succeeded in mitigating his pain so much, that it became not only bearable from that moment, but insignificant on the same day, and by the end of the week it had entirely left him." This much for the time of the cure. Now for the conditions to which the patient had to submit. "A very large blister was the result of the first and only application, which discharged very considerably, and from mismanagement became troublesome for about a week, as I was informed afterwards: but this at last healed, and with the cicatrisation of the surface, every vestige of the old pain left the arm, nor has it ever returned since." Prodigious! as the good Dominie Sampson would exclaim. *Che cosa maravigliosa!* the rapturous expression of the gaping lazzaroni, who had just witnessed the extraction of a tooth by an itinerant dentist on the Mole at Naples, might be repeated, in reference to this wonderful cure by Dr. Granville's antidynous lotion. But the full merit and point of the exploit in this case cannot be properly appreciated, unless the reader bear in mind the origin of the word antidyne, implying, as it does, against or adverse to pain. Anodyne would not suit the Doctor's notions of novelty, and hence his coinage of antidyne; and how happily applied in this case! After the annoyance and smarting from an ulcerated surface, for this last is implied in its subsequent cicatrisation, the patient was relieved of his pain; a relief, be it observed, gradually obtained, and only complete after the protracted ulceration caused by the *antidyne.* Wherein, a simple minded physician of the ante-antidynous age, might ask, was the great advantage of the antidyne in this case over a common blister, or the application of a cantharides plaster, until rubefaction was induced, and afterwards of a common emollient poultice?

This lotion is represented to be prompt and certain in relieving, controlable in its effects, and perfectly harmless, and of course fit for general use. We have already shown the fallacy of these pretensions. Other cases might be quoted from Dr. Granville's work; such as that of Count M. who had first pain of the left side and limbs, and subsequently symptoms of lock-jaw. The antidynous lotion was applied to the wrist, the bend of the arm, and the axilla, and the hollow of the knee, and after producing its usual burning sensation caused a subsidence or great diminution of the pain. A renewed application allayed the rigidity of the muscles in another attack; but it was not before it had been applied a third time, and had induced vesication of the whole jaw and cheek, from the back part of it to the front on both sides, that relief was given; while a similar effect was produced high up on the spine by a third compress wet with the lotion applied to this part. In common medical parlance, this would be called

an extensive blister. In that of Dr. Granville, we must term it a satisfactory and magical antidynous result.

Without occupying more space by the citation of similar contradictions, we shall hardly be called rash, if we accuse Dr. Granville of rank empiricism, in his whole manner of treating the subject. He addresses it, in a special manner, as he tells us in his preface, to the general reader, rather than to his professional brethren. He has studied, accordingly, to perform his task in a popular, rather than in a learned and professional manner. All this would be very commendable, if the subject were one that could be understood and appreciated by the general public, and the practice recommended were of easy use, and not susceptible of abuse and positive injury. We shall show from his own admission, that the first condition cannot be complied with. Touching the second, we have already spoken with requisite clearness. In the beginning of section fourth, Dr. Granville prescribes the necessary conditions, six in number, for the employment of artificial counter-irritation,—conditions which it would require all the knowledge, experience, and tact of a medical practitioner to carry out. Hence it is very clear, that the work was not written, as it professes to be, for the benefit of the general public; but that it was intended to let the latter know what wonderful cures its author could perform. The practice itself was not such as could be conveniently and safely adopted by patients on themselves. Of course, after suffering from their mistakes, they would be disposed to refer to the maker and dispenser of the antidyne himself,—another means this for self profit and advancement, without equivalent good done to the parties, on whose credulity he rises into greater notice.

Whilst thus deceiving the public, Doctor Granville's conduct to the profession of which he is a member, is unfair and unjust, and calculated to produce wrong impressions of what had been done before he wrote, towards the relief and cure of various painful and, in some instances, dangerous maladies. He would have it inferred, from the title of his book, that the *principles* of counter-irritation are laid down, amplified, and elucidated;—whereas, in fact, there is not even common justice done to this part of his subject. He would also fain persuade his readers, that the means which he employs to produce counter-irritation are not only new, but distinctive and uniformly efficacious, and that for the first time the subject of counter-irritation has been exhibited in its true light. He admits, it is true, in his preface, that the Medical Profession are fully aware of its importance; and in the work itself he mentions 103 forms of counter-irritants: but he adds, that there is not one of which we can "fix or determine the precise dose" that is necessary to produce the desired effect. Does not this observation apply to nearly all remedies; and is his own highly vaunted antidyne an exception? Can he fix a dose that is to regulate its strength, so that it shall produce precisely the effect, either rubefaction or vesication, which he desires? We have shown, from his own testimony, that he cannot: and it will be found, that under the most careful management, the ammonia, or his antidynous lotion will, often cause vesication where it was not desired, and where another counter-irritant, more uniformly rubefacient, will answer a better purpose. Not only is the point of common irritation, by which the capillary tissue of the skin becomes injected, transcended, but that of inflammation, by which there is serous effusion under the cuticle, or vesication induced, is also passed, and direct cauterization of the

whole skin is caused by the prolonged application of the stronger ammoniated or antidynous lotion. And here a few minutes will constitute often the undue prolongation; for there is no positive measure, either in the uniform strength of the lotion, or uniform sensibility of the skin, of different individuals to guide us, in this matter. One will have his skin reddened, another vesicated, and a third cauterized, by even the same liniment, kept on during precisely the same period in all. As to the allegation of the Philadelphia reflex and direct puffer, viz. of Dr. Granville, and of Dr. Granville's lotion; and of himself, Dr. Crossman, and of Dr. Crossman's lotion, that this latter has often removed instantaneously and permanently, the most obstinate pain, acute and chronic, "without its even producing rubefaction, or any other phenomenon of the skin," we can only say in reply, that it is entitled to just as much weight as would be the assertion, that by rubbing it on his own hands, it had enabled him, Dr. C., to walk on these extremities with perfect ease and firmness; and that what was erst lower limbs performed the part of upper, for prehension as well as for compounding and administering the most *v*onderful *v*onder—his antidynous lotion.

But, whatever doubts might still be entertained respecting the real purpose of Dr. Granville in publishing his book, are at once dispelled, and the proof of his empiricism made manifest, by the circumstance of his withholding from the parties whom he addresses a knowledge of the composition of his antidynous lotion, more than is gleaned from its other title of ammoniated. What becomes now of, or what value can we attach to, his professions of a desire to enlighten the public respecting the true nature of the practice of counter-irritation, and, through them, to give support to the Medical Profession in an enlarged recourse to this practice, when he keeps both the general public and his professional brethren, in ignorance of the composition of a lotion, on the use of which the reputation of the whole practice, in his opinion, mainly depends. Conduct like this is discreditable to any man who is a member of a liberal profession, and merits, that which it generally receives, contempt. A physician who acts in this manner, places himself at once under the banner of quackery, which ever has been, and must in the nature of things ever be, a rallying signal for needy knaves, or self-willed fools. Their shallow pretensions to benevolence, are belied by the very mystery which prevents the diffusion of that which is so pompously announced as eminently calculated to allay pain, banish disease, and prevent death. If a physician or any other member of the community, become possessed by discovery or otherwise, of a remedy or plan of treatment which is calculated to produce the effects promised by its discoverer, does it require any argument to prove, that the good to the world at large will be immeasurably greater, if a knowledge of its nature and composition and rules for use, be disseminated amongst the thousands and tens of thousands of medical men in all parts of Christendom, than if this knowledge be confined to one man. Each physician cognizant of the remedy, becomes an agent for its use and distribution among a large number of sufferers. For this reason, every member of the profession who aspires to be useful in it, and who is actuated by a feeling of genuine benevolence, loses no time in communicating verbally at first, and afterwards through the press, in Journals or separate volumes, an improvement, either in existing modes of practice, or in the discovery of a new mode. If the novelty be confirmed by the experience of others, it is generally adopted: if it is found to be unavailing, or of minor moment, it is soon rated at its true value, and ceases to obstruct the course of farther investigation and improvement in this particular channel. But wherein can similar benefits accrue from the use of a nostrum, in the hands of its putative inventor, or of a few ignorant agents, who, unlike regular commission merchants, can give no reasonable security, that the bottle of syrup or lotion sold to-day, is the same in all respects as that sold yesterday. The only reliance is on the original manufacturer, and this is poor indeed, since the man who begins with imposture is not apt to continue his course after the rules of honour and honesty.

We are the more free and earnest in the expression of our opinions on this subject, because, on the adoption and practice of its ethical bearings will depend the ability of the medical profession to maintain a proper lofty stand, as the advocates and cultivators of science, and the ministers of relief to suffering and frail humanity. Now, more than ever, ought every physician to be fortified with correct views respecting the adverse and deleterious influences of empiricism. The profession is becoming more and more crowded ; and, consequently, the means of acquiring fortune more limited for any one member of it. In such a state of things, he, who has just entered its ranks, is in some danger, if he do not make strenuous exertions, under the impulse of a lofty ambition, to overcome difficulties, and to take his station among the intelligent, the elevated, and the distinguished of his brethren. If his zeal flags, or his principles are at all vacillating, the suggestions of poverty or the impulse of avarice may tempt him into the by-paths of false pretence and quackery ; and he will find, but too late for his happiness, that whilst he has lost his fair fame, he has gained but little lucre in its stead. He will have passed his days in trying to deceive the world at large, and ends them by finding himself deceived. Nor can the praise of the ignorant, or the sympathizing voice of knavery be received by him as adequate atonement for the loss of true fame, both present and posthumous, even though wealth should have rewarded his crooked courses. Gladly would he exchange, if all his sensibilities are not entirely seared, his ill-gotten gains, though they should make him a millionary, for the fresh and pure feeling and generous aspirations of the young, solitary, and poor student, whose chief reliance, under a kind Providence, is in his own innate faculties, his indomitable perseverance, and the stores of knowledge which he is accumulating, and which he hopes in after years to dispense with honour to himself and benefit to the community.

We must not, after all, conclude this article without apprising our readers that since the republication of Dr. Granville's work in this country, the medical public has been made acquainted with the composition of the antidynous lotions. Dr. Granville found himself in so awkward and unpleasant a position that he thought proper to reveal the mystery, and thus with an ill grace make an atonement for a wrong to all parties, which he would never have committed had he possessed a truly elevated feeling of ethical proprieties. He has passed the age in which one can plead indiscretion, and is in too lofty a position to plead ignorance, in extenuation of his empiricism. Of the imitator of this last quality in Philadelphia, and the author of the pamphlet which has been so generously distributed among boarding-houses and private families in the city, we have nothing special to say. He has voluntarily assumed the demerits of the whole affair, and we leave him in their full enjoyment. If he were a friend, in place of being a stranger to us, we could never too deeply deplore his position. Were he an enemy, one could hardly conceive of a better means of gratifying hate than that which he has chosen.

Sixth Annual Report of the State Lunatic Hospital at Worcester. December, 1838. Pp. 88, 8vo.

This, like preceding documents of a similar nature from the same quarter, is a valuable contribution to the history of the treatment and statistics of insanity, and of the ameliorating processes by which the various forms of this disease are deprived of much of their horrors as well as made more curable. We cannot yet forego the intention, expressed in a letter asking for permission from the estimable superintendent of the hospital, Dr. Woodward, to publish the voluminous Report and accompanying documents of this institution for the last two years. Home facts and illustrative experience must come with peculiar acceptance just now when, in so many states, asylums are in course of erection, or

being planned, and the various auxiliary means to those of a strictly medical kind examined with great carefulness.

During the six years which had elapsed on the 30th November, 1838, eight hundred and fifty-five cases of insanity have been under treatment. The admissions during the last year were one hundred and seventy-seven; of whom ninety-six were males and eighty-one females. The duration of the disease in eighty-two cases, viz. of forty-five males and thirty-seven females, was less than a year, whilst there were ninety-five cases, viz. fifty-one males and forty-four females affected for a longer period.

"There have been sent to the hospital by the different courts *one hundred and twenty-three* patients deemed furiously mad and dangerous to go at large, and *fifty-four* have been admitted as private boarders."

"At the close of the year there were, in the hospital, two hundred and eighteen patients, of whom *one hundred and fifteen* were males, and *one hundred and three* were females. Of this number of cases *twenty-eight* are of duration less than one year, and *one hundred and ninety* of duration longer than one year.

"During the year, there have been, in the hospital, *three hundred and sixty-two* patients, and one hundred and seventy-seven of whom were admitted in the course of the year, and *one hundred and eighty-five* in the hospital at the commencement of the year."

"There have been discharged during the year, including deaths, *one hundred and forty-four* patients, of whom *eighty-four* were males, and *sixty* were females. *Seventy-six* of these recovered; *forty-five* males and *thirty-one* females: *twenty-four* were improved; *eleven* males and *thirteen* females: *fourteen* were not improved; *eight* males and *six* females: *fourteen* were discharged harmless and incurable, for want of room; *ten* males and *four* females: and *sixteen* have died; *ten* males and *six* females."

Of this number of cases discharged, seventy-four were of less duration than one year, viz. forty-seven males and twenty-seven females. The recoveries were sixty-four in number, thirty-seven males and twenty-seven females. Of the number of cases discharged, seventy were of duration longer than one year. The recoveries were twelve, males seven and females five; improved and discharged eighteen, males ten and females eight. The deaths were twelve, males seven and females five.

Respecting occupations and profession as causes of insanity, Dr. Woodward remarks in reference to a tabular statement drawn out by him: "The great list of employments in the table show conclusively that all mankind, of whatever pursuits, are liable " to the evil, and that little can be said of the occupation as a cause of insanity in any case."

Of *intemperance* as a cause of insanity, Dr. Woodward says:

"Intemperance continues to be a prominent cause, but we are happy to think it is less frequent than formerly. It will elsewhere be recorded that this cause, during the first three years of the hospital, gave origin to *twenty-five* per cent. of the cases of insanity admitted, while it is supposed to be the cause in but *fourteen* per cent. of the cases admitted the last three years."

"The number of admissions from religious causes has been about the same as usual the past year." These are estimated to be about 9 per cent.

"The number of admissions from masturbation the last year have been less, and the cases of a more favourable character. *Six* cases only are known to have arisen from this cause; but probably *three* or four others may have done so. *Four* or *five* of these cases have recovered, and have been discharged with such feelings of the nature and tendency of the practice, as it may confidently be hoped will ensure them from future indulgence and its consequences."

Hereditary Insanity.—"The number of cases denominated hereditary, is very large on our table; for facts on this subject we rely wholly on information derived from friends. If near collateral relatives are or have been insane, we call the case hereditary, wishing to be understood that the family have a propensity to the disease." The number of cases of this nature is stated to be 267.

There is a series of tabular returns in the Report the results from which are presented in a form similar to those which we have just copied. But we must for the present desist from borrowing from these rich stores.

History of the New York Kappa Lambda Conspiracy. Tempus omnia revelat. New York, 1839, pp. 32, 8vo.

Happily not all the charges of conspiracy, which history records, have been proved to be well-founded, else man might be called emphatically a conspiring animal. Accusations are commonly followed by explanations or formal defence, and until the latter appear it is hardly wise or just for an historian, or even chronicler, to repeat the former.

The present production consists of a series of essays which originally appeared in a department of the New York Weekly Whig, called the "*Medical Examiner.*" Though we are not equal to a perusal of the blanket sheet of the Whig, we look with interest over the portion devoted to the Examiner, and are pleased at the frequent evidences of independence, and vigour of thought and style, manifested by its editor. We must confess, however, on the present occasion, that we cannot join in conclusion with him as to the gross misconduct of any branch of the Kappa Lambdians; and for this, to us, good reason: that all our personal experience is calculated to give us the highest notions of the purity of Kappa Lambda ethics, and the noble views which the first Societies entertained of the nature, application, and improvement of medicine. In Philadelphia, the association embraced a large number of the most respectable, influential, and trust-worthy physicians of the city, who were governed by a Constitution and By-laws which were faulty only by exacting too much from human nature, in the way of self-denial and devotion to the higher objects of the social compact. We speak in this matter, if not with authority, at least knowingly of the whole history of our Society, from beginning to end, and we can conscientiously declare that we never were, nor do we expect at any future time to be, connected with any body of men, for any purpose whatever, who were animated by loftier motives, and who were more desirous of benefiting their own community and society at large, by their resolves and proceedings, than were the members of the Philadelphia Kappa Lambda Society. As already intimated, the standard was too high for attainment, and the worst charge which can be made against it is, that its plans were somewhat Utopian. Still, with all its faults in this respect, it did much for the profession in this city, and, indirectly, for the profession in the United States. It published one of the best medical journals of the time, (the *North American Medical and Surgical Journal,*) which, independently of its own intrinsic merits, served, in some respects, as an exemplar, and certainly was a direct cause of the improvement, by the large and methodical introduction of foreign medical intelligence into it, of that work which was its immediate successor, and which still contributes to give character to our medical literature. We refer to the *American Journal of the Medical Sciences.*

The influence of the association was, also, most beneficially displayed in bringing together a number of the young and active members of the profession, and in establishing an intimacy and a cordial intercourse among them, which neither time nor rivalry in the pursuit of honours and station, have abated. For these reasons we feel grateful to the Kappa Lambda Society; and although our connexion with it caused us, personally, a large expenditure of time and much labour of the pen, without any pecuniary return, we do not by any means wish, in this respect, to retrace our steps, nor to say, with now some more worldly wisdom on our side, that we would exchange our feelings at the time and our reminiscences of the past, for wealth obtained by their sacrifice and abandonment.

There was one cloud, however, over the fair escutcheon of our society; it was the secrecy in which, for some years, it was shrouded. Even this was with the best and purest intentions; but it was an error, we admit, and we cannot now conceive, with our knowledge of the objections to mystery in any kind of social organization, of the possibility of our ever again joining hands with any body of men on such a condition. But we must add, otherwise we might be thought amenable to the charge of breaking the bond, that for some time before the dissolution of the society, the injunction of secrecy was removed, and the members were free to speak, as we have just done, of its objects and operations.

Whether the practice of the New York Society has been a deviation from the purity of the original creed we cannot take upon ourselves to say; nor do we think that the evidence adduced in the "History" is by any means conclusive on this head.

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ON SIMPLE ULCERATION OF THE STOMACH:

WITH OBSERVATIONS ON THOSE FORMS OF GASTRIC IRRITATION WHICH MORE COMMONLY PRECEDE AND ACCOMPANY IT.

By Langston Parker, M.R.C.S.

The general pathological character of the disease I am about to describe is that of a simple round, or oval ulcer, with edges generally thickened and elevated, in which the mucous and muscular coats of the stomach are more or less completely destroyed, and the bottom of the ulcer is formed by the peritoneal coat of the stomach; or, where the ulcers have healed by a membrane, the result of the process of cicatrization.

The anatomical characters of the disease consist in a round, oval, or irregular shaped ulcer, more or less deep, occupying various positions upon the internal surface of the stomach, more frequently however situated in the cardiac portion, the greater curvature, or, in the vicinity of the pylorus. The edges of these ulcerations invariably present considerable thickening, so that, in many instances, they appear, as it were, dug out into the substance of the thickened adjacent coats.

In ulcers of moderate size, the mucous and muscular coats of the stomach are commonly destroyed, and the bottom of the ulcer is formed by the peritoneal coat, sometimes very much thickened, a membranous cicatrix, or the base is rough, uneven, and fungous, and shows that the process of ulceration is still going on. M. Cruveilhier has, I think, committed an error, in stating that these simple ulcers of the stomach are generally single. In a great number of instances they are not only double, but even multiple, and the use of a moderate glass, or even the naked eye, will show in many instances where a large ulcer seemingly exists alone, that the mucous membrane is covered with many small spots of ulceration which a superficial examination might pass over;—the preparation, or figure No. 1, is a remarkable example of this fact.

One great peculiarity of this species of ulcer is its tendency to cicatrize under proper medical treatment. In some instances the cicatrices of these ulcers precisely resemble those of a badly healed burn, and they have likewise the same tendency, if the ulcer be large and deep, and its edges very much elevated, to pucker up, and draw together the surrounding parts, so that the stomach is contracted and deformed, its peristaltic motion impeded or destroyed, and the process of digestion in this manner rendered laborious and painful.

The healing of the large deep ulceration represented in Fig. 1 had so contracted the stomach, that its cavity was diminished nearly one-third.

All the cases of simple ulcer I have had an opportunity of examining after death have presented concomitant marks of inflammation in other parts of the stomach; these have consisted in general increased vascularity of its mucous membrane—a punctiform or arborescent redness, general or partial—a congested and distended state of the veins of the submucous cellular coat, with general or partial thickening of the other tissues.

The terminations of ulceration of the stomach are four;—in three modes fatally, in one favourably. It may terminate in erosion and perforation of the stomach;—in one way by the continuance of the ulcerative process, and in another by the weight of the food pressing continually upon a thin cicatrix, or the centre of an ulcer occupying the greater curvature or cardiac portion of the

stomach. Simple ulceration of the stomach may terminate secondly in a fatal hæmatemesis, the process of ulceration, by its continuance, opening a large venous or arterial trunk It may in a third way become fatal, and wear out the patient by the constant and violent pain it occasions, destroying his digestive powers, impeding nutrition, and producing gradual emaciation, and death. Fourthly, the ulcer may cicatrize, and the patient become perfectly well, though even in this mode of termination there are two evils to dread—the recurrence of the disease from slight exciting causes, and the rupture of the cicatrix from the pressure of food, or from violent exertion.

Case, *illustrating the History, Symptoms, Pathology, and Mode of Treatment of Simple Ulceration of the Stomach.*

A remarkably stout man, a free liver, in the middle walks of life, began to suffer from uneasiness after taking his food at the age of eight and twenty years. He then suffered from weight, distention, and flatulence, with nausea after eating; he had also occasional vomiting. These attacks were relieved by medicines prescribed for him by the physician, under whose care he was at that time placed, but were prone to recur when the patient returned to his customary habits of living. When I first became acquainted with him, eight or ten years ago, he complained of fixed pain in the epigastric region, which was much increased by pressure and taking food; the pain was not at that time constant, it was most distressing after eating, and accompanied by much flatulence and distention. By restricting the patient to a milk and farinaceous diet, sponging the epigastric region frequently during the day with hot water, and exhibiting some mild carminative aperients daily for a short time, the symptoms subsided, and he again returned to his occupation in apparently good health.

After a time the pain again returned in a more violent and obstinate manner than before. It assumed the same character, was worse after eating, and accompanied by some tenderness and heat in the epigastrium. It did not now yield to the remedies which had before relieved him, but was much mitigated, and for some time entirely disappeared after the application of small relays of leeches, and continued counter-irritation over the epigastric and left hypochondriac regions.

My patient again returned to his accustomed occupations and mode of living, and after a lapse of eighteen months returned again with his pain as bad, if not worse than before. He was again relieved, I may say cured of his distressing uneasiness, by the administration of small doses of the muriate of morphia, and a repetition and continuance of counter-irritation; observing, at the same time, a strict dietetic regimen.

In this manner, during the last ten years of his life, was this patient relieved or cured six or seven times of the painful affection of his stomach, which as constantly returned, when he resumed his customary habits of living upon mixed and stimulating food and drink.*

After having lost sight of him for some time, during which period his ailments were so slight as not to lead him to seek medical assistance, I was suddenly called to him during a violent attack of hæmatemesis, in which he vomited from two to three pounds of blood. I may here observe that, during the previous progress of disease, my patient had never vomited blood, or those black discharges which are peculiar to ulceration of the stomach. He had rarely nausea, and if he had an attack of vomiting, which did not take place more than two or three times during the whole progress of his disease, he vomited his food only. He was, however, occasionally subject to discharges of blood by stool, and at

* This part of the history of the case confirms a remark which I have made in another part of this paper, and which I find confirmed by the experience of M. Cruveilhier, viz. that ulceration of the stomach, after having, by care and judicious treatment, been brought to a state of cicatrization, is exceedingly prone to recur from slight dietetic errors, or even from strong mental impressions. This physician has seen a case similar to the one I have recorded, in which the disease returned three times, at intervals of from two to four years.

other times when this was not the case, his stools were black as pitch; these black discharges we shall afterwards speak of, but when they occur with such gastric symptoms as the present, and independent of any hemorrhoidal or other disease of the rectum or anus, they are symptoms indicating very strongly the existence of ulceration of the stomach.

To the vomiting of blood succeeded great languor and depression, palpitations, hurried breathing, with attacks of severe pain in the stomach and bowels, which came on daily, sometimes twice or thrice in the twenty-four hours. The pain seized him suddenly, and left him with a discharge of wind. He had great tenderness and pain in the epigastrium and right hypochondrium; the skin had a pale, sallow, blanched appearance, whilst the tongue did not deviate in any appreciable manner from a perfectly natural condition; it had the same pale appearance as the skin; no coating, no redness, no development of the papillæ.

From this time to the period of his death varied plans of treatment were adopted, with a view of relieving the epigastric pain. The trisnitrate of bismuth with the ponderous carbonate of magnesia and the muriate of morphia certainly afforded very marked relief; amongst many remedies that were employed this was the most efficacious. Benefit was likewise derived from the carbonate of iron with rhubarb, and a sedative. Small blisters were also used, with a strong solution of the extract of belladonna applied warm on a piece of flannel and laid over the epigastrium. Suddenly and without any appreciable cause his breathing became embarrassed, cough came on, and terminated in the expectoration of muco-purulent matter to the extent of three half-pints daily.

Under the continued irritation of pain; and bronchial disease, my patient sank, three weeks after the attack of hæmatemesis, at the age of 52. I believe the immediate cause of his death to have been bronchitis. I am firmly convinced that from his stomach disease he would have recovered.

Inspection of the Body, 28 hours after Death.—The coats of the stomach were generally thickened, more particularly the peritoneal, and this more marked in the pyloric half of the viscus. Great vascularity, and thickening of the mucous coat generally; the veins of the submucous cellular tissue gorged with black blood. The greater curvature contained a large, deep ulcer, perfectly healed, with thickened and elevated edges; the process of cicatrization had puckered up, and contracted this portion of the stomach to some extent, just as the skin is occasionally contracted by the healing of a burn. The cicatrix of another large ulcer existed in the immediate vicinity of this; here the healing process had been completed without puckering or contraction of the surrounding mucous membrane. Several smaller ulcers were formed in different parts of the stomach, the one immediately below and between the two large ulcers was rapidly healing; in the two lower ones, which I imagine gave rise to the gastric symptoms during the later weeks of disease, the process of ulceration is still going on. The lowest, I have no doubt, gave issue to the blood vomited three months before death.

The spleen was hypertrophied to some extent. The liver in the same state. The pancreas much enlarged. The pericardium intimately adherent to the heart; the muscular structure of the heart very pale and soft.*

Several adhesions of the pleuræ on both sides; the bronchial mucous membrane vividly injected; general congestion of the substance of the lungs.

Remarks.—This case is worthy of notice, in many points of view, and exhibits in its history and morbid appearances most of the peculiarities of that disease which has been termed by Cruveilhier simple ulceration of the stomach; a disease which has never been fully described in this country, and but partially by the pathologists of France.

We will dwell for a moment on the history of this case. In the first place we observe the symptoms of indigestion, as they are commonly termed, to have commenced about the age of eight-and-twenty, and to have harassed the patient

* These two pathological phenomena, viz. adhesions of the pericardium, and pallor with softness of the muscular substance of the heart, are commonly observed, after death, from prolonged gastric, or gastro-hepatic diseases. See the cases, &c., detailed in my work: "The Stomach in its Morbid States."

more or less during the whole of his subsequent life. It will be remarked that the attacks of stomach disease were at first relieved by medical treatment and strict attention to diet. As disease proceeded they became more difficult of cure, and what was at first a mere active hyperemia of the stomach, terminated in confirmed chronic gastritis, and subsequently in ulcerative inflammation of the mucous membrane. I conceive the facts of this case will admit of no other satisfactory explanation.

From examination of the accompanying preparation (Plate 1) it will appear, that the ulcers of the stomach had been formed at different periods, and certainly gave rise to those violent attacks of pain, which the patient from time to time experienced, at intervals, sometimes of two or three years. I believe the process of cicatrization was favoured by the local depletions, and counter-irritation to which my patient was subjected, when his pain became so violent, as to lead him to give up his occupation and seek for medical relief. Under a perseverance in a strict regimen, small local bleedings, counter-irritation, and minute dose of morphia, &c., he became perfectly well, and it was not till after a course of living upon a full and stimulating diet, that the attacks of inflammation and pain again came on.

On examining the morbid appearances in this specimen, we find that it exhibits almost all the varieties of which the simple ulcer is capable. In the first instance we notice the cicatrization of the large ulcer to be accompanied by that degree of contraction of the mucous membrane in its vicinity which is commonly observed in the skin after the healing of burns. The very healing of these ulcers may become a source of lasting inconvenience and danger, for if they be situated near the openings of the stomach, in the vicinity of the cardia or pylorus, the contraction of the cicatrix directly shrinks the orifice, and the passage of food to or from the stomach is rendered more or less difficult. The pathological anatomy of M. Cruveilhier contains the account of a patient in whom the cicatrization of simple ulcers had contracted the pyloric orifice of the stomach so much that it would barely admit a goose-quill. He had originally presented the symptoms of ulceration, which had been, by an appropriate treatment, cured, but returning to the pleasures of the table, and being a great eater, had suffered the most agonising pain after meals, till he, at length, sank from a succession of hæmorrhages, which M. Cruveilhier thinks arose from exhalation from the surface of the congested mucous membrane of the stomach, since no vessel of any magnitude could be detected from whence the blood could have issued.

It is thus that ulcers of the stomach, in their healing, sometimes lay the foundation of diseases as formidable as those which characterise their open condition.

The second ulcer has cicatrized without this contraction of the mucous membrane, at least with a very trifling degree of it.

Perforation of the stomach has been prevented, in this instance, by the extreme thickness of the peritoneal coat of the stomach. This I imagine to have been the result of that inflammation which was going on in the coats of the stomach, previous to ulceration of the mucous membrane, and to which is owing that general thickening of the parietes of the viscus which is very remarkable.

The thickening of the peritoneal coat appears a provision of nature, for preventing that perforation of the stomach, and discharge of its contents, which must otherwise have taken place; and hence it is that perforation of the stomach, the consequence of ulceration, in males, is less frequent than in females; the ulceration, in the former, generally succeeding to a general chronic gastritis, accompanied by thickening; whilst, in the latter, the affection is due to a localized inflammatory action, occupying a very small portion of the mucous membrane, where the thickening is generally confined to the edges of the mucous membrane surrounding the ulcer.

General Description of the Symptoms of Simple Ulceration of the Stomach.

The first of these is a fixed, acute pain, occupying the epigastric, or left hypo-

chondriac regions, the centre of the sternum, or some point on the dorsal portion of the spine, between the scapulæ. This pain is the symptom "par excellence," it is that, and generally that only which attracts the patient's attention; from it he may be for some hours occasionally free; but never is so entirely during the day. For many hours out of the twenty-four this corroding uneasiness harasses the sufferer, sometimes in the morning, at others in the evening, sometimes in the intervals of meals, but generally it succeeds to them, and commences with more violence after the dinner meal, continuing without abatement till late in the evening, when it commonly subsides, and leaves the patient comparatively easy for the night, till breakfast brings back a return of his sufferings. The seat of this pain is, as I have just stated, variable. I attended a gentleman for some years with simple ulceration of the stomach, who always suffered most severely in the centre of the dorsal portion of the spine, and along the course of the intercostal spaces; in this patient the epigastric pain was not absent, but in some measure masked by the greater suffering he experienced in the back and sides. These parts were very sensible to pressure, and he invariably experienced relief of the gastric uneasiness, from the application of small relays of leeches over the tender spot on the spine; this, during the latter months of disease was the only remedy that afforded any marked relief. This patient died ultimately from violent hæmatemesis.

In many other instances the pain is confined to the centre of the epigastrium, which is the chief, and indeed the only seat of suffering.

Although the act of taking food occasions the patient so much uneasiness, the appetite in many cases of ulceration of the stomach continues good, and in some instances is morbidly increased. The remark of patients labouring under this disease is commonly "I could eat any thing but dare not." In certain instances the appetite is defective. This I think arises most commonly from extensive concomitant inflammatory action, and where the ulceration is complicated with other lesions of the mucous membrane.

The tongue is in a great majority of instances clean; in some not the slightest deviation from the healthy condition can be detected; it is neither redder, nor less moist than usual, and even when ulceration of the stomach has been accompanied by profuse bloody vomiting, we observe the tongue to present that blanched condition which is common to other organs in this state, and not to offer that contrast to the external skin which is so remarkable in the advanced stages of pure chronic gastritis, where the vivid redness of the protruded tongue presents a striking contrast to the sallow, pallid countenance.

I have, in my work on the stomach, adduced a variety of facts, noticed by myself, and supported by the corroborative testimony of Louis, and Andral of the uncertainty of the state of the tongue as indicating any particular pathologic condition of the stomach. The tongue certainly bears no direct relation to the kind, or degree of disease existing in the stomach. Dr. Stokes has remarked that too much attention is, and has been paid to it, with this view, by British practitioners; whilst Louis says "we should examine the tongue for itself merely, not to ascertain by it what is the matter with the stomach." I have rarely met with a case of simple ulceration of the stomach, where constipation of the bowels has not been a prominent and most distressing symptom; and one which is a source of great anxiety both to the patient and his attendants. The attacks of pain are more violent and frequent whilst constipation is present, and again there is great difficulty in framing an aperient that will relieve constipation, without producing great pain during its operation.

Nausea is not a common attendant upon this disease, but sudden and sometimes fatal vomiting of blood, or a black fluid, comes on at an earlier or later period. M. Cruveilhier considers the black vomiting peculiar to, (and almost pathognomonic of,) ulcerations of the stomach, to result itself from blood, slowly secreted from an ulcerated surface, and rendered black by its sojourn for a longer or shorter space of time in the cavity of the stomach, and its mixture with the acids of the gastric juice.

Bloody vomiting, in ulceration of the stomach, is by far the most dangerous symptom we have to contend with. I have certainly seen a patient recover from

ulceration of the stomach after several attacks of severe hæmatemesis; these cases are, however, comparatively rare. Discharges of blood rarely occur early in the disease, and when they come on to any extent, a patient is worn out and emaciated by constant pain; they are very commonly fatal. I have more than once seen persons, with ulceration of the stomach, die in the very act of throwing up blood.

Before any vomiting of blood, or black fluid, takes place in ulceration of the stomach, it will very often be found that these matters are passed by stool. The blood is slowly exhaled, mixes with, and colours the food and fæcal matter, and passes off in stools as black as pitch. This symptom, considerd with others, will leave no doubt on the mind that blood is slowly oozing from an ulcerated surface; and it will lead to the adoption of measures to prevent the sudden vomiting of blood, which commonly succeeds to the black discharges by stool, of which these latter are, in many instances, premonitory symptoms.

The manual examination of the epigastric region contributes little to confirm our diagnosis in this disease. It is sometimes highly sensible to pressure, at others perfectly indolent. In the advanced stages of disease in the male, where the coats of the stomach are commonly thickened, a tumour may be detected, but, apart from the existence of other symptoms, we cannot say whether this tumour result from mere thickening, the result of chronic gastritis, or whether this thickening be accompanied by ulceration or cancer.

The general appearance of patients suffering from ulceration of the stomach, is haggard and anxious in the extreme. Defective nutrition has produced a paleness in their tissues which is very remarkable; the conjunctiva has sometimes the appearance of the whitest marble, and the whole aspect of the patient, in the advanced stages of disease, even when hæmatemesis has not taken place, is that of a person blanched by repeated hæmorrhages.

We must here inquire into the nature of those symptoms of gastric irritation which precede the actual state of ulceration, in other words, we must look for the causes of this disease; these, I believe, will be found in certain states of gastric irritation, which are very much under the control of medical treatment.

M. Cruveilhier says, "The history of the causes of simple ulcer of the stomach is involved in deep obscurity; or, rather, this disease recognizes all the causes of gastritis for which it has been mistaken. But why is only one single spot of the stomach affected, whilst all the other parts of the stomach are in a healthy state!" It is singular so accurate a pathologist as M. Cruveilhier should have made a statement disproved even by many of his own cases, by the remarkable one detailed in this paper, and by the pathology of the stomach generally. The simple ulcer is met with as frequently double, triple, or multiple, as it is single; and I have never seen a case where this organ has not presented the most unequivocal signs of long continued inflammatory action, most frequently marked by general or partial thickening of its coats. Not only are the consequences of inflammation to be found in the stomach after death from ulceration, but the whole class of symptoms, which precede and accompany ulceration during life, are clearly dependent upon inflammation, as the results of inflammation sufficiently prove.

Ulceration of the stomach succeeds more particularly to two conditions of gastric irritation, which it is important here to notice; these are inflammatory indigestion, or certain forms of gastritis in males, and those affections of the stomach which occur in females whose menstruation is irregular, who are the subjects of hysteria, or who are confirmedly chlorotic. These forms of irritation are clearly of the inflammatory kind, though essentially modified by the state of the economy in which they occur.

I shall endeavour to give a brief account of such of these forms of gastric irritation which I have seen terminate in fatal ulceration of the stomach. The case detailed in the earlier part of this paper, will illustrate in its history, the origin and progress of that form of indigestion which is evidently of an inflammatory character. The fresh attacks of this disease are generally marked by fullness after meals, distention of the stomach, eructations, heart-burn, nausea, pains in the back and sides, uneasiness in the epigastrium, terminating in fixed and con-

stant pain, aggravated by taking food; strong beating of the heart, throbbing of the carotids, head-ache or stupor succeeding a meal.

It is true that in a vast number of instances the inflammatory forms of gastric irritation never terminate in ulceration of the mucous membrane of the stomach, though I believe, from some experience in this class of diseases, that ulceration is a more frequent termination of them than is generally supposed. This opinion is likewise corroborated by the experience of M. Cruveilhier, who, in his second paper on this subject, states this disease to be much more frequent than he had at first supposed.

I have seen the inflammatory form of indigestion, which is a true partial gastritis, terminate in ulceration in five months, from its first commencement, in a patient who had never, previous to this period, suffered in the most remote degree from any affection of his stomach.

M. Cruveilhier believes in the existence of acute ulceration of the stomach, and adduces the case of a patient who died from the disease, twelve months after a slight attack of cholera, prior to which he had been in perfect health. He mentions a second case terminating fatally in ten days from perforation, the subject of it never having been ill before this period, the anatomical characters of the disease showing it to be a recent ulcer. A third case is mentioned succeeding to indigestion of some months standing, fatal by perforation.

The most insidious and alarming forms of irritation in the stomach, if we regard their occasional termination, are those painful affections, and disordered conditions of the digestive powers which occur in young females, particularly where there is any disorder in the functions of the uterus. It will be found on examination that most patients who are chlorotic suffer more or less from some form of irritation in the stomach or bowels.

Some complain of pain after food, nausea, daily vomiting, diarrhœa, loss of appetite with heat and tenderness in the epigastrium. Accompanying these symptoms there is commonly a dry, red tongue, and the patient suffers from a most distressing weakness.

Not unfrequently, in the midst of these symptoms, or after some partial degree of amendment, the patient is seized with acute pain in the bowels, and suddenly sinks and dies. On examination the stomach is found perforated in the centre from ulcer, with thickened and elevated edges, the immediate vicinity of which exhibits marks of inflammation and thickening of the coats of the stomach, whilst the remainder are generally very thin, and the mucous membrane in all other points presents a remarkable pallor or whiteness, and is almost exsanguined:—a totally different condition from that observed in the mucous membrane of patients dying from that ulceration of the stomach which is the result of general inflammatory indigestion or pure chronic gastritis. In the former instance the disease is generally confined to a very small portion of the mucous membrane; it is a localized inflammatory action occurring in a constitution in an extreme degree of weakness or irritability, and seated in tissues so badly nourished that they present but little resistance to the fatal termination of the disease in perforation of the coats of the stomach.

I conceive the difference of the circumstances, under which the disease we are now considering occurs (in the male as the result of inflammatory indigestion, on the one hand, and in the chlorotic, or hysteric, or debilitated female already exhausted by uterine irritation, on the other,) to be one most powerful cause why the disease so much more frequently terminates in perforation in the latter than in the former.

I know of no instance where cicatrization of an ulcer of the stomach has been shown to have taken place in the female. In the male, the case of Professor Beclard will suggest itself to the minds of all, whilst the case now detailed is another and perhaps the most remarkable hitherto recorded. Cruveilhier states that the simple chronic ulcer has a tendency to cicatrize, and Dr. Abercrombie says that he is satisfied that he has seen the cicatrices of such ulcers when the patient has died of another disease, after having been for a considerable time free from uneasiness in the bowels. The latter authority however records nothing definite upon the subject.

I believe ulceration of the stomach to be more frequent in the male than in the female, whilst the fatal termination of this disease by perforation are much more frequent on the part of the female than the male. Mr. Pritchard of Leamington, in a pamphlet on the organic character of hysteria, has collected from various authorities eighteen cases of perforating ulcer in the female, whilst he has only been able to meet with eight recorded ones of the same disease in the male.

It is true that the disease is more frequently verified after death in the female than in the male, but I think it will be found that the disease is more prone to cicatrization in the male from the circumstances I have mentioned, and again in the male its fatal terminations are more frequently by hæmatemesis, and gradual exhaustion, than by perforation, from the simple circumstance that the coats of the stomach generally, or those merely in the immediate vicinity of the ulcer are most commonly the seat of considerable thickening the consequence of long continued chronic inflammation. We do not observe the same causes in the female.

Of the Treatment of Ulceration of the Stomach.

The treatment of ulceration of the stomach must be modified to suit the particular kind of affection we are called upon to manage, and hence it must be considerably different in the male, where the disease is the result of gastritis or inflammatory indigestion in any of its numerous forms, and in the female where it occurs in the midst of disorder of the health generally, and upon which, in such instances, I have no doubt it very materially depends.

I shall not here notice any plan of treatment adapted to the forms of inflammatory indigestion, having said enough on this subject in my previous work.

The grand indication in the treatment of ulceration of the stomach is to bring about cicatrization of the ulcer, and this I believe will be best accomplished in the following manner, at least it is the mode I have generally found most successful.

The patient must be limited to the smallest possible quantity of food under which he can be tolerably comfortable, but the wants of the stomach on this head must be satisfied; for if any degree of craving, or irritability be induced by the abstinence, it is carried too far. It must have been noticed by all that have had the care of patients with ulceration that they are tolerably easy except after a meal. They should never be suffered to take meals, properly so called; we should first attempt to discover what kind of food they are most easy under, and small quantities of this should then be taken every two hours, so as to prevent the appetite ever experiencing the sense of hunger, or ever feeling a desire to satisfy it by eating a tolerably hearty meal. It is almost impossible to lay down any rules as to the kind of food under which a patient with ulceration will be most comfortable; it very commonly happens that light animal food agrees better than a farinaceous diet, and I have occasionally found cold weak brandy and water in such instances the best sedative. The stomach must never be distended by food, nor any kind of food administered which so far disturbs the digestive powers as to give rise to the evolution of much gas during digestion, which in itself, is nearly as great an evil as distending the stomach by food. The next point is the condition of the epigastrium, if there be tenderness on pressure, or heat in this situation, leeches must be applied in quantities suited to the powers of the patient till it is removed. Even in the advanced stages of disease, local bleeding from this is highly serviceable; it diminishes congestion, and renders the attacks of pain less frequent and violent. Employed after attacks of pain it relieves that venous distention occasioned by them, which frequently terminates in hæmatemesis. When the stools are black, or bloody, it is highly useful, frequently changing their character by diminishing the congestion or inflammation in the stomach, and checking the exhalation of blood from the ulcerated surface. Hæmatemesis frequently relieves all the symptoms of ulceration, sometimes for weeks; but we must recollect a patient may die, and commonly does die during the attack, these efforts of nature therefore should be imitated by the employ-

ment of means likely to bring about the same result. If the epigastrium be indolent, and the stools natural, or nearly so, the next remedy of importance is counter-irritation, by blisters, the antimonium tartarizatum, or other remedies; this should be persevered in constantly, and unceasingly as long as disease remains. I do not think setons productive of much good. I have seen them useless where repeated blistering has afforded great relief. Fomentations laid on the epigastrium and kept on for several hours, sponging this region night and morning with very hot water, reposing in a tepid bath for a considerable time daily, are all remedies that may be employed with advantage. The patient is always worse during constipation; the bowels are best regulated by enemata. If aperients be given they should be of the very mildest character; a few grains of rhubarb with a tenth or twelfth of the muriate of morphia,—the ponderous carbonate of magnesia prepared by Henry or Howard, administered in some infusion of orange-peel, or mint tea, are remedies sufficiently active; the common magnesia is worse than useless. After cicatrization has even taken place all active purgatives should be avoided. M. Cruveilhier records a case of rupture of a cicatrix from violent aperients administered to relieve an apoplexy. The violent peristaltic action of the stomach induced by the aperient had ruptured the cicatrix of an ulcer. Internal remedies are exhibited in ulceration of the stomach with several objects. To relieve pain, to facilitate cicatrization, to check the oozing of blood from an ulcerated surface, or lastly to remedy some general constitutional weakness or irritability which appears unfavourable to the healing of the ulcer.

To answer the two first indications minute doses of morphia may be administered with the trisnitrate of bismuth. The nitrate of silver, first proposed by Dr. James Johnson, will be found very serviceable with this view. The sulphate of iron also may be employed; there is sometimes a sponginess of texture in the mucous membrane in long continued cases of ulceration when these latter remedies are highly beneficial. There is occasionally also a great degree of debility, of languor, of laxity of tissue accompanying ulcer of the stomach, in which the exhibition of tonics becomes necessary, and in such forms of disease the carbonate of iron, or even the mistura ferri comp. are employed with great benefit. Every thing that affects the constitution generally has an effect upon the healing of the ulcer, and hence the condition of the health generally demands our strictest watchfulness; the functions of the skin; the state of the bowels; the urine; the epigastric region all demand unceasing attention. I would impress upon the reader that ulcers of the stomach commonly cicatrize, as the state of the general health under which they first made their appearance improves. It is true that they more immediately depend upon the pathological condition of the stomach, bu tthis is most commonly the result of general constitutional causes.

The great difference which exists between the treatment of ulcer of the stomach in the female and in the male, depends chiefly upon the general condition of the economy in which the diseases separately occur, and the pathologic character thus induced in the stomach in which the disease is seated.

Thus, as I have endeavoured previously to explain, whilst the stomach of the male in which ulceration occurs is generally thickened, in the female exhausted by uterine irritation it is thin, while, hardly supplied with blood except in the immediate vicinity of the ulcer. The diet in the treatment of these affections in the female should be administered in the same mode as I have directed for the male; it should be more nourishing but unstimulating; brandy largely diluted is generally beneficial, it is not then stimulating but sedative. Local bleeding is generally hurtful, the blood drawn contains a great proportion of serum, and is sometimes almost aqueous, hardly staining the linen. Counter-irritation by blisters, is here the great remedy, at the same time that we regulate the bowels by mild stomachic aperients or enemata, and administer freely the carbonate or sulphate of iron. Gentle exercise, sedative fomentations to the epigastrium, with sponging, may here be employed as in the last instance; the warm bath must be avoided, but the tepid shower-bath may be employed with advantage.

PLATE I.

Example of Ulceration in the Wall, the consequence of long-continued inflammatory indigestion, or chronic gastritis. Great thickening of all the coats of the stomach, more particularly the mucous and peritoneal.

No. 1. Large and deep ulcer perfectly cicatrized,—contraction of this portion of the stomach.

2. Ulcer perfectly cicatrized.

3. Open ulceration. No. 4. Open ulceration.

This example contains eight ulcers, two perfectly cicatrized, two open, the remainder undergoing the process of cicatrization.

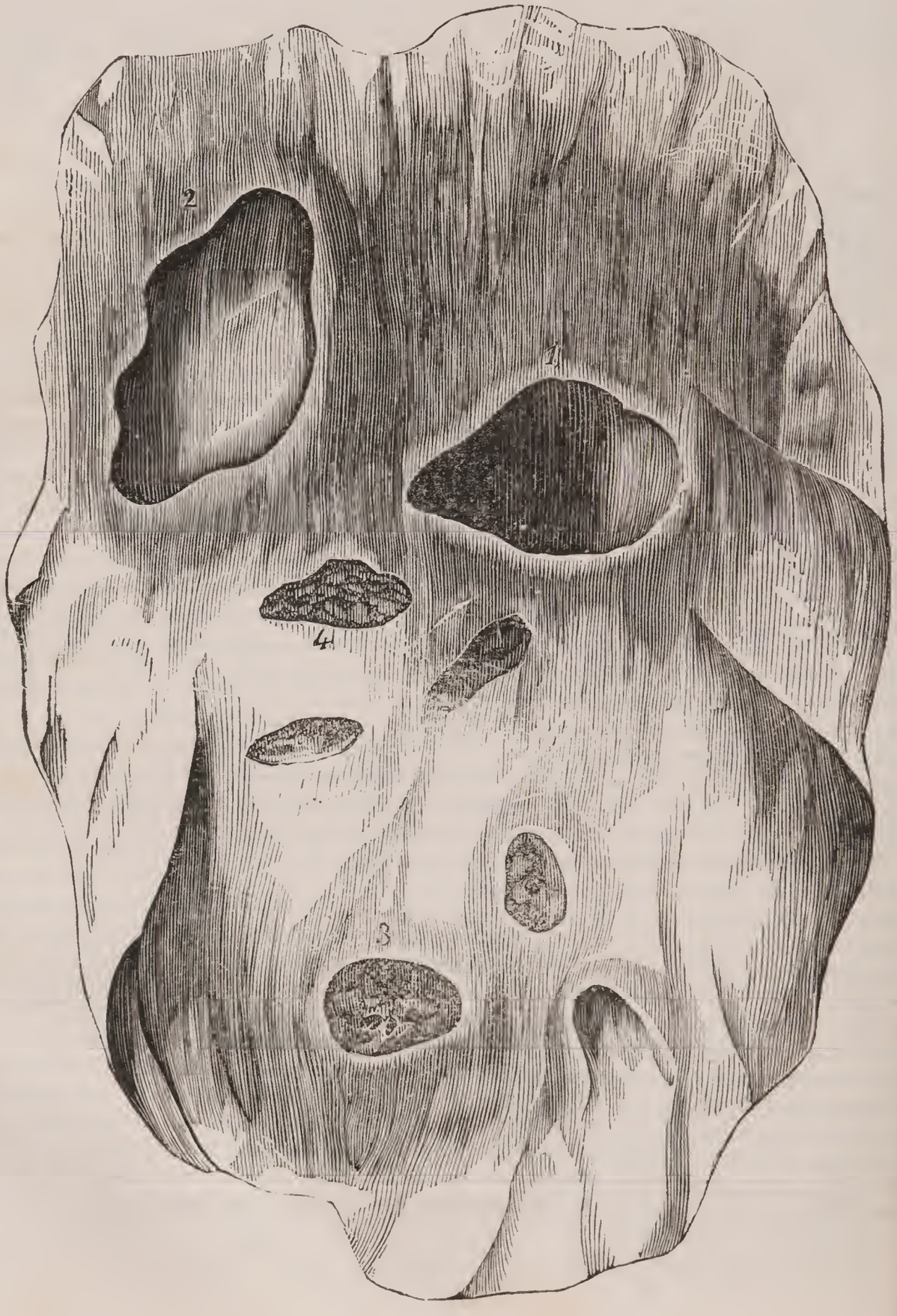
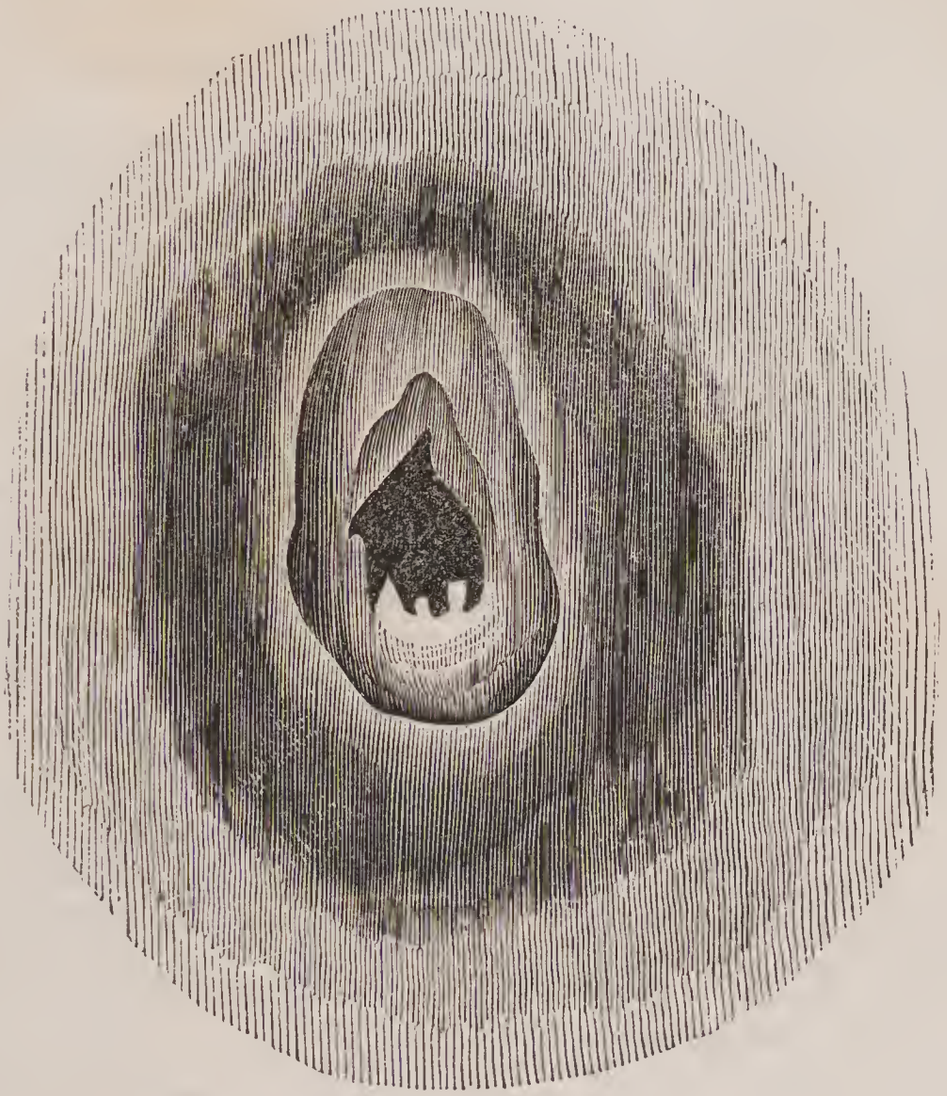


PLATE II.

Ulceration in the Stomach of the Chlorotic Female—Deep ulcer with thickened edges, fatal by perforation. Blush of redness round the ulcer merely, the remainder of the stomach exceedingly white, coats very thin, almost complete absence of the rugæ.



Med. Chir. Rev.

ON PORRIGO OR SCALLED HEAD AND RINGWORM.*

Dr. Dick regarding the characters of *Porrigo* as of contagious origin and propagation, difficulty of cure, and alteration of the appearance of the hair, distinguishes the disorder so characterized into four forms, *Porrigo lupinosa*, the *Porrigo scutulata*, the *Porrigo furfurans*, and the *Porrigo decalvans*. He says nothing as to the kind or form of cutaneous inflammation which it induces, but he believes that these four species originate in only two different structures or sets of organs;—and is inclined to think that porriginous eruptions may be reduced to two heads, viz. porrigo originating in the sebaceous glands, and porrigo originating in the structure producing the hair.

The sebaceous follicles, he describes first as they are seen in the skin of the cow. In this animal he represents them to be yellowish in colour, very similar to the Meibomian glands, though smaller, and with their central canal or duct, not a short sac but continuous with the piliparous cyst. Each piliparous cyst he

* A short Treatise on the External Characters, Nature, and Treatment of the different forms of Porrigo or Scalled Head, and Ringworm. By Walter Dick, M.D. &c. Glasgow, 1838.

further represents to be surrounded at its summit by one of these follicles, the follicle being on the outside of the double piliparous sac. To another peculiarity he further directs attention. Interspersed among the short hairs are many long strong ones, the roots of which are enveloped by two cysts, an outer thick one fibrous in tissue; and an inner of delicate translucent tissue. Between these two cysts is situate an erectile vascular tissue, from which when divided a drop or two of blood escape. The sebaceous follicles belonging to these coarse hairs, he represents to be smaller than those surrounding the fine hairs; and in place of lying outside of the fibrous cysts, they are situate between the fibrous and inner cysts, being attached principally to the former.

The sebaceous follicles of the human skin are smaller, less complex apparently in structure, yet more difficult of examination. Their relative situation, however, is the same. They are best seen at the roots of the *cilia* or eyelashes; elsewhere they are smaller but the same in structure. On the nose, where their orifices are perceptible, especially in males, delicate or rudimental hairs are seen issuing from many of their orifices, from which also, by the sides of the hairs, sebaceous matter, he adds, may be expressed. This circumstance he regards as a clear proof that the hairs pass through the centres of the follicles, and that the piliparous cysts and sebaceous follicles have a common outlet.

In describing the anatomical characters of the dermal ends of the hairs, Dr. Dick repeats, apparently without being aware of the fact, the circumstance originally mentioned and delineated by Mascagni, that the dermal ends of the hairs are bent on themselves, so as to resemble the letter J or *J*.—Mascagni in the plates of his *Prodromo della Grande Anatomia*, compares them to the tops of the figures employed in marking musical notes in score, (terminano a foggia del capetti scolpiti in cima delle note musicali ed impiantansi nel pannicolo adiposo,*) implanted in the subcutaneous adipose tissue.

The dermal end of the hair, which is for a short space hollow and soft or pulpy, is implanted in a small globular dark-coloured body in the subcutaneous tissue, the *monticulus* of Duvernay. This Mascagni has also described under the name of *capetto*, or little head of the bulb of the hair. Dr. Dick, like most of his predecessors, allows each hair to be provided with two sacs; an inner one, thin and delicate, closely applied to the hair, and an outer, thicker and stronger, not so closely connected with the former but that it is easily separable. Morbid action in either, especially when terminating in effusion of fluid, is liable, he thinks, to interrupt nutrition and cause it to be detached.

1. *Porrigo Lupinosa*, the lupine-seed scall, is represented by M. Mahon to originate in the sebaceous glands, the secretion from which, when indurated, forms the cup-shaped scabs, like lupine seeds in hollows; and in this Dr. Dick ag ees with him. *Porrigo lupinosa*, he observes, when seen at the commencement, appears in the form of small yellow points with depressed centres (*achores*, *favi*,) almost invariably traversed by hairs. Their contents are from the first consistent and concrete. They enlarge slowly, seldom exceeding three or four lines in diameter; but in rare cases they attain the size of a sixpence. They are firmly imbedded in the skin, retain the circular form with raised edges and cup-like centres, containing, when of old standing, a powdery whitish yellow substance. Though arising distinct, they in the course of the disease coalesce.

Baudelocque, following the opinion of Bichat, Meckel, and others, denies the existence of sebaceous follicles in the scalp, and hence places the seat of *Porrigo lupinosa* in the piliparous cysts; and Mr. Plumbe, from each of the pustules being traversed by a hair, believed that the hairs perform an important part in their formation. Dr. Dick, however, who thinks he has seen sebaceous follicles in the scalp, argues that the disease is primarily seated in these follicles;—and he mentions, as confirmatory of this view, a preparation consisting of a small portion of the scalp inclosing an incipient lupine-like scab, taken from a patient who died of fever, and who had for a considerable time before death been affected with the lupine-like scall. In this preparation the scab is seen still covered by the cuticle. Below, it appears to be inclosed in a membrane, and a hair invested

* Prodromo della Grande Anatomia, Tavolo, I. page iii. Firenze, 1819.

with its double cyst, apparently in a healthy state, is seen passing through its centre. In short, the scab occupies exactly the situation of a sebaceous gland, and appears to be merely a sebaceous gland distended by a concrete secretion. He adds, that when a lupine-like scab is removed, it is not succeeded by a similar one, but by one of an irregular form, without the peculiar cupped shape,—a circumstance which he ascribes to the sebaceous follicle having been destroyed during the development of the primary scab,—we presume by the inflammatory process; and consequently he regards the fact now stated as an additional proof of the truth of his hypothesis.

The frequent permanent baldness ensuing in this disease he ascribes to destruction of the sebaceous follicles, piliparous cysts, and bulbs.

2. *Porrigo lupinosa conferta* (*Porrigo scutulata* of Willan and Bateman,) he ascribes to the same origin, and regards as a mere variety of the common lupine-scall, occasioned by the *achores* arising in closely set crowded patches, in which the mutual pressure prevents the formation of the characteristic cup-like appearance. Alibert regarded it as essentially the same as *Porrigo lupinosa;* and the author who follows this view proposes, as a distinctive name, the agnominal epithet *conferta.*

The separation and altered appearance of the hair in both forms of *Porrigo lupinosa* he deems their most characteristic feature.

As the two eruptions now described are, he thinks, liable to be confounded with the mask-scall (*Porrigo larvalis*) of Willan, and the honeycomb scall (*Porrigo favosa*) of Willan, each of which he refers to *Impetigo* or tetter, under the names of *Impetigo larvalis* and *Impetigo favosa*, he gives a description of each, which it is unnecessary to repeat. They are distinguished from the true porriginous eruptions, he says, by their non-contagious nature, by not changing the texture of the hair, or producing *alopecia*, and by their different elementary appearances and subsequent progress.

To *porrigo* originating, as he believes, in the organs secreting and protecting the hair, he refers the two species described by Willan under the names of *Porrigo scutulata* and *Porrigo furfurans.* These he further regards as varieties of the same disease; and he reproduces the description of Mr. Plumbe, as that, which, according to him, corresponds most with the result of observation. With this author also, he thinks that the *achores*, usually represented to begin the disease, are neither primary nor necessary lesions. As both these varieties, therefore, commence with the formation of furfuraceous patches, from which the hair falls off and becomes altered in texture, he would either refer both to the common head of *Porrigo furfurans*, or place them both under the same *genus*, by the name of *Alopecia porriginosa.*

He thinks further, in considering the pathology of the disorder, that it consists primarily in subacute inflammation of a specific character, affecting the piliparous cysts and the tissue secreting the hair; and in support of this view he adduces the following facts and arguments.

1. The thin bran-like incrustations frequently seen surrounding the roots of the hairs, consist evidently of a morbid secretion from the pilous cysts.

2. The hairs drop from the affected parts, while those which remain are like tow,—white, delicate, and unhealthy.

3. In extracting the hairs from diseased parts, the bulbs are occasionally brought with them; and these are then generally of an unhealthy aspect.

Therapeutics.—In conducting the treatment, Dr. Dick proceeds on the principle that the different forms of true *porrigo* seldom rise from constitutional derangement, and are generally local in their origin. As a first application, he recommends poultices and frequent ablution with tepid water, under which alone some cases will recover altogether.

With regard to removal of the hair, he thinks evulsion is useful when hairs are lying loose on the skin, or appeared shrivelled or parched,—in other words, are dead or diseased, and when the hairs can be extracted without pain. But, on the other hand, whenever evulsion causes pain, he thinks the practice is detrimental, and ought not to be followed. He recommends, instead of indiscriminate evulsion, excision of the hairs by shaving the scalp from time to time,

when the skin is not tender, and when it is so sore and raw as to render this process painful, he advises to keep the hair cut short by the scissors.

The application of strong sulphuric acid over the affected parts, followed after a minute or two by ablution with tepid water, as practised by the late Mr. Plumbe, he also recommends, in the *Porrigo furfurans*, *scutulata*, and the early stage of the *Porrigo lupinosa*.

When there is much irritability of the scalp, and pustular inflammation is considerable, he recommends, besides poultices, slightly astringent lotions, or some desiccative ointment, as that of oxide of zinc, superacetate of lead, or the moon-seed berries, (*Cocculus suberosus*, Decand.) In *Porrigo lupinosa*, after the scabs have been softened and renewed, he finds benefit result from an ointment consisting of from ten to twenty grains of the red oxide of mercury carefully rubbed with one ounce of fresh butter.

In the furfuraceous ringworm, solutions of nitrate of silver, or lotions containing sulphuret of potass, liquor of potass, or tincture of muriate of iron, answer well. Dr. Dick employs with good effect an ointment consisting of a drachm of magistery of bismuth, (the di-nitrate,) mixed with an ounce of lard or simple cerate, a little of which is applied night and morning, the parts being previously well washed.

The therapeutic powers of the deutioduret of mercury, ioduret of sulphur, and iodide of carbon, all of which have been much recommended, he thinks are over-rated.

An ointment found also successful consists of one ounce and a-half of laurel oil (*Oleum Laurinum*), half an ounce of sulphur, and ten grains of camphor carefully mixed.

The secret preparation of the brothers Mahon, which has been found to consist of charcoal with weak quicklime and subcarbonate of potass in variable proportions, is manifestly essentially pure potass, rendered more or less inert by admixture with the charcoal. Of this there are three forms, varying in strength; one, the feeblest, employed generally as an ointment; the second stronger, applied as a depilatory powder; the third, the strongest, used both as a depilatory powder, and in the form of ointment, for a fortnight or month.

Good nutritious food, with attention to cleanliness, are also strongly recommended as contributing powerfully to the accomplishment of a perfect cure. In some instances even it may happen, Dr. Dick properly observes, that, under the best directed treatment, general or local, all efforts are unavailing, and the disease remains stationary until some favourable, yet imperceptible, change in the constitution is effected, when the disease slowly, but steadily, and completely disappears.

PRELIMINARY COMMUNICATIONS REGARDING AN INQUIRY INTO ARTIFICIAL DIGESTION.*

By Prof. Dr. Purkinje and Dr. Pappenheim, in Breslau.

I. On the Influence of Galvanism in Artificial Digestion.

When, in the May Number of last year, we just commenced some preliminary experiments on artificial digestion of the mucous membrane of the stomach, in hydrochloric acid, at "brood-heat†;" and when the residua of muscles, nerves, and nervous fibres given up to digestion, were examined by us under the microscope, we were struck every time at finding a great quantity of oblong, knotty, conferve-shaped bodies in company with those organic substances, which at first we could not ascribe to the mucous membrane of the stomach, because we supposed that this, according to the common theory, is a simple mucous membrane

* From the Archiv. Für Anatomie, Physiologie, von Dr. J. Müller, 1838.

† The reader will excuse the coinage here attempted. We have no term in the language to express the *brut-wärm* of the German, by which is meant the temperature of incubation. Certainly an Englishman is as well entitled to coin the term *brood-heat*, as a German is to make the term *brut-wärm*. Besides we have analogy for our new term; we have the term *brood mare*.—Rev.

only furnished with some scattered glands. It is therefore not to be wondered at that the idea forced itself on us to take these conferve-shaped bodies for a new organic product of the digestive process, as the commencement of a new organization. This however was soon explained, when the mucous membrane of the stomach* was subjected to a strict microscopic examination. For it appeared at once, that those bodies are nothing else but the parenchyma of extremely small, long, simple glands, which constitute the chief part of that mucous membrane. After carefully separating the innermost tolerably thick layer of the mucous membrane of the stomach of the ruminantia, or of the simple stomach of other animals, entirely from the subjacent cellular layer, a thing which may be effected in very many parts over which it lies in folds, except the pyloric portion (at which it is firmly united with the middle coat) in large patches frequently several inches square, it was found, on closer examination, that this apparently simple mucous membrane is composed of an immense number of very small, oblong, cylindrical, simple glands, which are imbedded in a perpendicular direction in the surrounding cellular and vascular tissue. This structure may be very clearly perceived by allowing these separated patches of mucous membrane to harden in a concentrated solution of carbonate of potash from 12 to 24 hours, in a gentle heat, where it may then be divided in all directions into very fine, transparent slices, which, when brought under the microscope, show the internal structure of that membrane.

From this investigation it follows that all this apparently mucous layer is glandular throughout, and may be considered as a glandular membrane. The more minute description of its structure in man or other animals is reserved for another place.

If such a portion of the glandular membrane be combined with the proportionate quantity of water and muriatic acid, so as to constitute the digestive fluid, the digestive action is next directed to the solution of the cellular and vascular tissue which holds these glands together, and the glands, which themselves remain undissolved, swim in great numbers in the digestive fluid singly and uncombined, in the form of those knotty bodies. In this simple glandular substance filled with parenchymatous grains the peculiar runnet-material (*Laabstoff*) seems to be contained, on which all the phenomena of digestion in connexion with the other conditions are dependant. Besides those glands constituting the gastric mucous membrane, there are also found separate, scattered, larger glands, which seem to be destined for the secretion of a simple mucus, whilst those glands by virtue of their peculiar glandular substance were destined for the exclusive secretion of the digestive or gastric juice which proceeds immediately from their substance.

After we supposed that in this way we had found the proper digestive principle in this glandular substance, the question arose whether it is of itself sufficient to effect artificial digestion. After the glandular membrane of the stomach was detached as cleanly as possible, it was brought into the brood-heat, partly in the recent state, in various series of quantities, with a constant quantity of distilled water, and with small portions of hard-boiled albumen, in order to observe the action exercised on this latter substance. It was soon discovered that after three hours or more the changes accompanying digestion were not observable in the albumen; on the contrary after from 8 to 12 hours, a very rapid putrid fermentation took place in which it terminated on continuing the experiment for a longer time. Thus the mere gastric substance was found to be insufficient of itself to effect the digestive process. This, it is known, may be accomplished by the addition of small quantities of acid, as for instance, by means of hydrochloric acid. The question now arose by what organic process the hydrochloric acid is set free in the living stomach, and what other acid comes into play during digestion. Our microtomical investigation certainly discovered no separate organ in the stomach, except probably those simple mucous glands, which could secrete the acid required for digestion; it must therefore be those *gastric glands* that immediately

* The term in the original is laab-magen, by which is meant that stomach of ruminating animals in which the runnet is found.

take on them the secretion of the digestive mucus and of the acids at the same time. The thought now presented itself whether some process of the nerves similar to that of galvanism may not effectuate this secretion in the stomach. The separation of the acids should then be accomplished, through such dynamic influence, either in the alimentary substances, or in the intermixed saliva and mucus, or in the serum of the blood contained in the blood-vessels of the gastric mucous membrane, or finally in the gastric substance itself. This observation gave rise to the following series of experiments :—

When in the month of August we set about repeating these experiments with a pile consisting of 30 pairs of plates 4 inches square, in which platina wires were brought from both poles into one and the same glass vessel, no result whatever appeared; where pure gastric membrane came into the experiment putrefaction rapidly took place in brood-heat. The hard-boiled albumen was then either unchanged, or had become dirty and discoloured, or it was, on the application of muriate of soda, considerably hardened. Only once, when wrapped up in a bit of cloth, at the acid pole, it was introduced with pure gastric substance into distilled water, we found that after 12 hours it had disappeared from the cloth, and that it was dissolved in the fluid. The experiments were now changed thus far, that in order to separate the action of the poles, and to produce at the one the development of a pure acid, two glasses were selected, into each of which the mixtures used for the investigation were introduced, and which were connected by a cotton thread moistened with water.

A. In order to ascertain the possible action of the substances entering into the stomach from without under the influence of a dynamic agent, the experiment was first made with saliva, as this even in the natural state of things generally evinces an acid reaction. Saliva was put into two glasses to the amount of two drachms, both were exposed to the action of the galvanic poles, and they were connected together by means of a moist cotton thread. At the acid pole there was a development of chlorine gas quite sensible to the smell. After 24 hours the acid reaction was already so strong, that the saliva had a perceptibly acid taste, and litmus paper was intensely reddened by it. The reaction at the alkaline pole we leave out of consideration, it not being necessary to the purpose of our experiments. By chemical reagents the acid developed was proved to be hydrochloric acid. Into the acid saliva thus obtained three grains of dried gastric membrane were put, and then three square bits of dried albumen, and the mixture was exposed to brood-heat. In the ordinary time of digestion no alteration was as yet perceptible in the albumen. The fluid however very perceptibly smelt of hydrochloric acid, and subsequently it developed the ordinary acid smell of the digestive fluid. The albumen was not discoloured, nor opaque or of a chalk-white appearance, but it presented its ordinary transparency, a circumstance which left us to expect a possible farther change. Not till after the lapse of 8 hours did we perceive the characteristic transparent edges of the albumen passing into the digestive fluid. The mixture was now again placed in brood-heat, and when examined on the following morning, that is after the lapse of 22 hours, the digestion-edges (verdauungsränder) were advanced to be sure towards the middle, but the angles were not rounded, and in several places the mass was split and almost softened to a jelly. From this experiment it therefore followed, that if a dynamic action, similar to galvanism, takes place in the stomach, the saliva introduced with the alimentary substances is still capable of setting free a portion of the hydrochloric acid necessary for digestion.

B. In the next place it occurred to us to institute a similar experiment with a dilute solution of chloride of sodium, which enters the stomach partly as an immediate constituent, partly as an artificial admixture with the food. As the result however might here be anticipated with certainty, this experiment was not instituted, and the possibility of a similar production of an acid from chloride of sodium, as well as from saliva, was immediately presupposed.

C. *Experiment with diluted Albumen.*—Into each glass which was again to be exposed to the action of the poles, three drachms of distilled water with about one drachm of albumen, well mixed together, were put, upon which the action of the galvanic poles displayed itself in the following manner: at the oxygen

pole, coagulated albumen collected around the platinum wire in large flocculi, and the fluid in the vicinity of the wire evinced an acid reaction. In the other glass, at the hydrogen pole, the fluid was on the contrary observed to present no appearance of coagulation, being uniformly diluted and thinner than at the commencement. It had a weakly alkaline reaction. After twenty-four hours the alkalinity was very considerable at the latter pole; on the contrary the acid reaction continued at the other, only always in a weak degree, probably because the acid was partly expended in coagulating the albumen. When a portion of this acid fluid was filtered and then tested, it showed evident traces of hydrochloric acid.

D. *Experiments with Mucus.*—Four drachms of nasal mucus mixed no doubt with some saliva were collected, the saliva was then diluted with distilled water, as much as possible, and separated from the mucus. The mucus thus purified, was rubbed up in a stone mortar with about one-half the quantity of distilled water, and about three drachms were then introduced into the glasses which were to be subjected to the galvanic action. The mucus presented the same phenomena as the albumen. At the acid pole flakes of mucus collected around the platinum wire, with several air-bubbles, with a slight acid reaction, so that the wire, from time to time required to be freed from the attached mucus, in order that the other parts of the fluid also, which continued to develop chlorine gas sensible to the smell, might be exposed to the galvanic action. After twenty-four hours the entire fluid presented a tolerably strong acid reaction. Here also the presence of free hydrochloric acid was ascertained. At the alkaline pole the mucous solution was found to be thinner, and gave an alkaline reaction.

E. *Experiments with the Constituents of the Blood.*—It is commonly admitted that on many organic surfaces, as on the inner surface of the uterus, on serous membranes, and on the parts of mucous membranes not furnished with glands, the serous constituent of the blood is separated immediately from the fluid. We do not mean to inquire here how far this admission is correct; it sufficed, however, to suggest to us the question, whether acid separated by this supposed dynamic action immediately on the serum of the blood, and secreted on the surface of the stomach, might not serve as a condition of digestion. Pure human serum, was put into both glass vessels in the same way as has already been mentioned of the saliva. After twenty-four hours the fluid was sufficiently acid at the oxygen pole; the acid reacted in the same way as the hydrochloric acid. Whether other acids had been developed, was not inquired into; this appeared unnecessary, as other acids, in small quantity, would not have so acted as to prevent digestion. Into two drachms of this fluid the usual quantity of three grains of gastric membrane with three squares of albumen were put in the brood-heat. After a few hours the albumen appeared yellow and discoloured, the edges opaque. The gastric substance was dissolved to be sure, exhibited the well-known, acid (brodsauren) smell, and no trace whatever of putrefaction, which was probably hindered by the sufficient acidity of the fluid; but the albumen even after twenty-four hours did not undergo the ordinary digestive changes, at the very most it was softened, and discoloured. As a parallel experiment another glass with two drachms of distilled water, four grains and a half of gastric substance, and three drops of hydrochloric acid, with just as much hardened albumen as before, was prepared, and into this two drachms of serum were put; the entire was placed in brood-warmth. Here the added hydrochloric acid was to replace the acid developed in the galvanic process, and our object is to see whether the mixture of the serum did not exercise a preventive effect on the digestion. After the same interval the same change in the albumen manifested itself, whence accordingly the preventive action of the serum appeared to proceed. It would also appear manifest from this experiment that this presumed secretion and dynamic acidifying property of the serum of the blood cannot yield the acid principle required in natural digestion. This experiment is altogether imperfect, and rests on a basis not at all sufficiently grounded. Nature might still have means innumerable to produce in the serum of the blood that change which should be directly necessary for the process of digestion. It lay, however, in the regular course of our inquiries, and it should not be passed over, though it was to yield but a negative result.

Of the same quality is the following experiment, which was instituted with as concentrated a solution as possible of the red portion of the blood. After a piece of blood-cake was previously washed in distilled water so as to free it of any serum that may be attached to it, it was cut up into small portions, and distilled water was poured over it. Of the solution of the red part of the blood thus obtained, the due quantities, in the same way as has been already mentioned, were exposed to the action of galvanic electricity, and thus an acid fluid was obtained at the oxygen pole. With respect to the contents of hydrochloric acid we still remained doubtful. Experiments with fibrine were not undertaken.

F. *Experiments with the Substance of the Gastric Mucous Membrane* (Laab).—The chief question now to be determined was, whether the proper organic substance of the gastric mucous membrane itself does not contain already prepared the materials, which under the dynamic influence of the nerves set free the acid necessary to digestion. Accordingly some dried gastric mucous membrane of an ox at the temperature of + 18° R. was finely powdered, and about three grains with two drachms of distilled water, both put into a glass, were exposed to the action of the galvanic pile. The fluid in the one glass soon evinced an acid, whilst that in the other glass showed an alkaline reaction. In the former chlorine gas was evolved. Into each of the glasses a piece of albumen was introduced at the same time. In this experiment after the lapse of sixteen hours, the edges of the piece of albumen were observed to be transparent in the acid fluid. After eighteen hours the albumen was in a great measure dissolved. The acid fluid reacted as hydrochloric acid, in the alkaline fluid the albumen was to all appearance unchanged. This experiment convinced us that the substance of the gastric mucous membrane, when placed under galvanic influence, is capable of yielding the quantity sufficient for setting free the acid in the artificial process of digestion. An attempt was now made to obtain the artificial digestive fluid from the mere gastric membrane without the help of acid. Several drachms of acid-digestive fluid were prepared under the influence of the galvanic pile, and one portion of it, with albumen, was given up to digestion by itself in brood-heat; the other portion was likewise put into the albumen, and also in the brood-heat, and remained in connexion with the galvanic pile. In the former portion, after the lapse of three hours the edges of the piece of albumen were observed to be transparent, whilst in the other the piece was almost entirely dissolved.

From this it appeared that the acid developed in the gastric membrane is of itself sufficient perfectly to accomplish digestion; but with the help of galvanism the development of the acid is continued, and so digestion follows still more rapidly. It is to be understood that in the latter experiment, whilst the acid pole was introduced into the digesting mixture, the alkaline pole had been at the same time introduced into a similar digesting mixture with a connecting moistened cotton thread. The question now arises—did the digestion follow here more rapidly in consequence of the albumen having been exposed at the same time to the influence of the oxygen pole, and so a greater disposition to solution was in some measure developed in it, or did it follow in consequence of a greater quantity of developed acid from the gastric substance? It might here become the subject of inquiry in what proportion the acid was contained in the first digestive fluid, where the digestion proceeded more tediously, in which case the more tedious progress might be explained from the too small quantity, on which point we require another series of experiments to inform us. It might farther become the subject of inquiry whether so much acid would be developed from the gastric membrane through mere galvanic influence that it would suffice by its excess to prevent digestion; then another series of experiments would be necessary to inform us under what conditions hard-boiled albumen exposed to the oxygen pole could be made more or less soluble in the ordinary mixture. These experiments however do not belong immediately to the present inquiry. It sufficed for the present to have ascertained that the gastric mucous surface itself contains within it sufficient materials to set free the necessary digesting acid under galvanic influence. The question now again arose, whether chlorine salts soluble in water were incidental to the gastric membrane, or were admixed through other

secretions developed by this hydrochloric acid under the action of galvanism. It further remained as a subject of inquiry whether the gastric mucous surface free from chlorine salts was still capable, under the influence of galvanism, to set free the quantity of acid necessary to digestion. In this case the chlorine must be contained in an elementary form in the gastric mucous membrane, from which the acid should be formed again by combining with hydrogen at the galvanic pole. This however may be reserved for further investigation.

From the experiments thus far carried the following results might be deduced:—

1. It is unnecessary to admit a peculiar secreting organ for the hydrochloric acid in the stomach, because, with the exception of the secreting glands of the gastric membrane and the mucus, no separate organ is found for that purpose, as follows from our microtomical inquiry, as must happen for so specific a substance as hydrochloric acid is, and would scarcely be explicable on the hypothesis of mere transudation, as in the case of serum.

2. From our galvanic experiments it follows that the juices mixed with the food in the natural way, the saliva, the mucus, the portions of chloride of sodium and albumen generally present therein, further the serum of the blood which is possibly mixed in the stomach by exudation, but most of all the gastric mucous substance itself, develope as much chloride of sodium, as is required for the digestion of the coagulated albumen.

3. Were the nervous action in the stomach either identical with that of galvanism, or acting in a manner analogous to it, or at least accompanied by a galvanic process, this would seem to be sufficient to account for the development of the hydrochloric acid necessary for digestion, without our being obliged to admit a separate act of secretion for the purpose.

It might now be asked whether this inquiry could be brought to a perfect solution in the way of vivisection by applying galvanism to the nerves which preside over digestion; by this process also the analogy between galvanism and nervous action could either be fully established, or rendered still more doubtful; the further investigation of this matter, however, we defer for a more favourable opportunity.

II. On the Effects of certain Mechanical Agents in the artificial Digestion of coagulated Albumen.

A. Our next object then was to imitate the agents existing in nature which act on the food. To this head belongs first of all the division of the food by the teeth. Three grains of hard-boiled albumen were divided into fragments of about $\frac{1}{2}'''$ in diameter, and together with the ordinary mixture of artificial digestive fluid (gastric substance, gr. ij., water, dr. ij., concentrated hydrochloric acid, gutt. ij.) were put into a vessel, and for the sake of comparison, three large pieces of albumen, together of the same weight, (three grains) were put into another vessel in a similar mixture, at the temperature of brood-heat: it appeared that after one hour and half the solution was completely finished in the first vessel, whilst in the other vessel even after four hours traces of undissolved albumen were still observable. It seems unnecessary to say more on the further application of this experiment to the ordinary physiological processes.

B. It is usually supposed that, by the contractions of the several muscular fibres of the stomach, the alimentary materials are brought into new contact partly with the surface of the mucous membrane, and partly with the solvent juices of digestion, whereby the changes and solution of the same must go on more rapidly, than if, the fluid remaining in a state of rest, the surrounding saturated menstruum prevented or retarded the approach of new substances for solution. It was according to the purpose to institute an analogous experiment with the fluid of digestion and albumen, by placing them in constant motion, and noting the time of complete solution. For this experiment we selected a double vessel of tin. Into the space between the external and internal vessel water at the temperature + 30° R. was poured, and it was corked up; into the internal space two ounces of digestion-fluid with 48 grains of albumen were put. By means of water renewed from time to time, the temperature of the inner re-

servoir was constantly kept up at 28° R. The entire reservoir was shaken for about 2½ hours, and then presented all the albumen dissolved. In the absence of motion, all other circumstances remaining the same, the solution of the same quantity of albumen follows in about three hours, as we may infer from former experiments.

c. The stomach, more or less filled with alimentary substances, and the digestion-fluid presses partly with its muscular tissue equally on all sides on its contents, whilst this pressure, during respiration, is performed still further removed from the pressure of the atmosphere by the surrounding muscular parietes of the diaphragm and abdomen. It is to be admitted that by such pressure the solid constituents are much more intimately penetrated by the fluids, and are accordingly more acted on than without the same. In order to find a new datum of analogy this calculation gave occasion to the following experiment:—

To a glass of nearly four cubic inches a barometer-tube 28″ in length, 1½ in diameter, was fitted hermetically, and six drachms of digestion-fluid with 20 grains of albumen were added, so that the barometer-tube was filled with the same fluid to the stated height.

The pressure of the entire pillar of fluid amounted to 4½℔. In this case the perfect solution followed in 2½ hours, accordingly much more rapidly than under ordinary pressure. A still earlier, but less exact experiment, in which the albumen contained in a cloth was exposed to slight pressure in the fluid, gave a similar result.

From all this it follows that, in order to conclude from analogy, the pressure of the stomach and of the abdominal parietes on the alimentary materials existing in the digestion-fluid, must form a very important element of the reasoning.—*Med. Chir. Rev.*

ON THE MORBID DIATHESES WHICH HAVE SUCCESSFULLY AFFECTED THE NATIONS OF EUROPE.*

Dr. Hecker (the well-known author, we presume, of several works on the diseases of the middle ages) selected the above subject as the theme of his discourse last year before the Royal School of Surgery at Berlin.

On a former occasion he had directed the attention of his audience to the general constitutions or prevailing types of epidemic *febrile* disorders, which have spread over Europe in different seasons, and the prevalence of which may be said to characterise different portions of its history. These, he showed, had varied so much in their leading features during different epidemics, that it is quite impossible for any one to deny the existence of certain *pathological periods or epochs* distinguishable, the one from the other, by peculiar characters.

In the present discourse, he limits his remarks to a few of the *apyrectic* or *non-febrile diseases*, which have prevailed at different periods of the Christian æra; and of these he selects Gout, (we suppose under this term rheumatism also is included,) the Oriental Lepra, Scorbutus, Syphilis, and Scrofula.

The nations of Europe have long suffered, and still suffer, from these disorders. It is to be remarked, however, that they have never prevailed extensively at one and the same period of time; and that their succession has presented some curious and interesting characters. When, and under what circumstances, each made its first appearance, is a subject which, we believe, will never be cleared up. There is indeed strong presumption to believe that some of them, at least, were not known to the ancients; others, and more especially the Gout, (including as we have previously suggested, the varieties of rheumatism,) seem to have been even more widely diffused, and also more obstinate and intractable in its nature, than in the present day. We are led from various sources to suppose that it frequently prevailed over immense extents of country as a general epidemic; just as we see to be the case, in our own times, with

* Medico-Chirurgical Review.

influenza, and the class of eruptive fevers. It would indeed be difficult, says Dr. Hecker, to fix, with any degree of precision, the epoch at which this epidemic commenced or ceased; but it seems to be very probable that the date of its outbreak was about two hundred years before the Christian æra, and that it continued to recur, at various intervals, for the next eight centuries.

Several epidemic diseases seem to have succeeded to this one. Of these by far the most important was the Lepra of the East. It was carried into Italy after the conquest of the kingdom of Pontus; but it does not appear that it took root *d'une maniere definitive* in Europe till the second century of the Christian æra, nor did it prevail as a wide-spread epidemic till the commencement of the seventh century.

From this period it spread widely, carrying alarm and misery into all classes and grades of the people. The history of this epoch of Europe is full of the most appalling details of the pestilence. Vast lazarettoes were established in every country for the seclusion of the lepers, who were not only deprived of their freedom, but also declared incapable of retaining their civil or personal privileges.

In the thirteenth century, France alone had upwards of 2000 of these leper-houses; and in the other nations of Europe there were more than 1600, containing between 2 and 300000 of the sick.

In the course of the following century, it began, without any very obvious cause, to diminish in frequency as well as in virulence; and it ceased almost altogether towards the close of the fifteenth century.

The Scurvy then took the place of the Lepra; and its epidemic march is a very striking example of the metamorphosis of the general constitution of European health. The German nations seemed to have been most alarmed at the outbreak of this new pestilence: its appearance coincided with that of the *sweating-sickness* (la suette Anglaise) in the army of Henry VII. in 1486.

From this period, the scurvy became a prevailing *dyscrasis*, which affected the type of character of almost all other diseases; thus rendering what was comparatively mild and innocuous of a most alarming import. Without mentioning its frequency among sailors, we may state that it was one of the most destructive scourges in the armies of almost every European nation. During the last sixty or eighty years it has been, comparatively, but little known.

Contemporaneously with scurvy, Typhus fever has been one of the most widely-spread epidemics throughout Europe, for the last three centuries.

These two diseases, the one of a chronic or apyretic, and the other of an acute or febrile character, characterise in an especial manner the *general dyscrasis* of the European nations since about the year 1480.

A very peculiar feature of the Scurvy is the circumstance of its blending or allying itself, as it were, with other diseases, and thus modifying and aggravating their usual character or type.—*It was an alliance of this sort*, says our author, *that engendered the disease of syphilis at the close of the fifteenth century.*

Various conjectures as to the origin of this new pestilence, Syphilis, have been formed at different times; some tracing it from America, others from the army of Charles VIII. in Italy, &c. But all these hypotheses, supported although they have been with much elaborate erudition, are equally incorrect. It might be, with quite as much plausibility, derived from England, or from Germany, or from Egypt; for its primitive or essential forms existed in every country for ages before the close of the fifteenth century; and the new and alarming symptoms, which it displayed in 1495, are to be attributed altogether to its being complicated with the scorbutic or putrid diathesis then existing.

Syphilis is therefore to be considered as an old and well-known disease—aggravated at a certain epoch by the addition of a new morbid element. If we follow its career during the last three centuries, we shall find that it has been always alarming, just in proportion as it was allied or complicated with scurvy and the petechial form of typhus fever.*

* This view of the history of syphilis will probably be quite novel to most of our readers. It deserves attention, considering the abilities of its propounder, Dr. Hecker; but whether it is likely to be adopted generally, seems to us more than doubtful.

During the last fifty or sixty years, the Scorbutic diathesis having almost entirely ceased to exist in Europe, the Syphilitic disease has resumed its original or primitive conditions.

This amelioration is attributable, therefore, not so much to the remedies which have been employed, or to any improved method of treating the disease, as to a spontaneous and natural change in its essential elements.

Following the historical succession of Morbid Diatheses, which have presided over the countries of Europe, the *Scrofulous* may be said to succeed to the *Scorbutic;* less terrible in its outward features, but quite as destructive in its ravages as its predecessor. When we consider that the tuberculous *dyscrasis* is only one of the forms of Scrofula, and that this is the parent source of pulmonary consumption, we can at once appreciate its truly formidable character. Its development may be traced back to the commencement of the seventeenth century—at which period the Scrofulous Disease of the spine appears to have been remarkably prevalent. The evil was much encouraged by the mode of life too common in large towns; the people being crowded together in small ill-ventilated houses, and so many of them engaged at the same time in sedentary unhealthy occupations. Scrofula may be considered as truly and essentially a disease of town-life. It is fostered by whatever has a tendency to enfeeble and enervate the vital energies; and, on the other hand, the tendency to its development is most surely counteracted by the enjoyment of pure air, and of active and even laborious exercise.

Such is the *ensemble*, says Dr. Hecker, of some of the historical facts connected with the subject of my inquiries, in a general point of view. They exhibit to us an uninterrupted succession of different morbid *diatheses* or *dyscrases*, which have prevailed in Europe at different epochs—without, however, at all revealing anything of their special cause or origin. And yet who can, with any semblance of reason, attribute this series of phenomena to a blind chance, or a mere haphazard of Nature?

It is much wiser to confess our ignorance of this curious branch of historical research—most deserving of future investigation—while we, at the same time, recognize the sufficient evidence to convince us that the great *phases*, so to speak, *of national health are obedient to certain laws.—Revue Medicale.*

OBSERVATIONS ON THE ACTION OF SOUND IN THE STETHOSCOPE AND IN THE EXTERNAL EAR.

To the Editor of the Medical Gazette.

Sir,—I can scarcely presume to think that every thing novel in the subjoined brief essay on sound is correct; but if it contain a limited measure of truth, this may lead to a more accurate survey of the subject by some of your many able contributors, should you do me the favour to give it a place in your valuable journal.

I am, sir, your very obedient servant,

William Shand.

Aberdeen, 23d November, 1838.

I have been induced to commit to paper the following observations, not from any desire to animadvert on the sentiments of the learned gentlemen who, in the Medical Gazette for 1837–8, differ in opinion as to whether sounds produced in the chest be conducted from the parietes of the chest to the ear by the atmosphere in the stethoscope, or by the fibre of the wood of which it is composed, but to elicit truth and stimulate investigation.

This apparently simple point is not only important in relation to disease in the human body, but in regard to the action of the sound generally; it is therefore necessary to establish certain practical facts, in order to arrive at general conclusions and truth in this matter.

Sound is usually produced in bodies more dense than the atmosphere, by sud-

den percussion, and the action of one body upon another; and it is considered to be the result of different modifications of matter only.

Rapid agitation, causing the atoms or crystals of a solid, by their extremities, to act upon each other, creates sound, *whether this action be occasioned by original impulse or by reflection.* It is regulated by the principles of attraction and repulsion; and it cannot be produced, conducted, or reflected, in any case without vibratory action.

As the atoms or crystals of solids vibrate repeatedly, and ultimately return to their primitive positions, they produce more intense and continuous sound than fluids, the component parts of which pass each other, and do not return to their original positions.

In conformity to the density of the atoms, their form, and the medium distance between them, is the intensity, duration, and velocity of sound.

As all sonorous bodies, whilst they conduct, or reflect, also create sound, it is obvious that to preserve the *original character* of sounds, the reflecting or conducting body must in its movements accord in time with those of the body which produces or forms original sound.

As vibration is necessary to produce, conduct, or reflect, every still body must arrest sound, on the same principle that a body at rest, being in contact with a wheel moving round its axis, impedes its progress.

Slow pressure compresses a few atoms only, but rapid percussion occasions action, re-action, and sound, throughout hard bodies.

A solid, to produce much sound, must be of limited diameter in one direction, for it vibrates most in this direction, because the atmosphere yields more than the solid.

In every sonorous body there are two different actions—the tremulous or vibratory action, *which mainly creates sound;* and the undulating motion, which consists of a certain number of atoms moving together.

The undulation, by separating the action of the atoms, also determines the duration of each distinct sound in a body, and in the organ of hearing. In a string, the nodal point which separates the waves is easily defined; but in an expanded thin body the termination of the wave varies according to the form of the body, and is not easily perceptible; and it is frequently irregular in action and sound, so as to produce confusion in the ear.

For the reasons given, if a rod be struck on the end, or a thin expanded body on the edge, little sound is produced.

The chief distinction between hard solids and fibrous substances is, that the latter possess more of the adhesive, and less of the repulsive, principle; they require to be more distended in a longitudinal and superficial direction; and intensity of sound is more by the extent of their excursions than molecular action.

Fluids are more powerful conductors than productors of sound, but conduct less rapidly than solids. Their atoms or component pass each other, and do not return to their original places, as do those of solids: this accounts for sound passing in all directions in the atmosphere, but most in the direction in which most impulse is given; *also, why the same degree of percussion produces more sound in hard solids than in the atmosphere;* and why, in transit, there is less change in its original character.

It is much influenced by moisture in the atmosphere. Intensity and distance of transit appear to be regulated more by the adjustment of particles than the proportion of moisture. For instance, it is loud and passes farthest during frost, and at all times when objects are seen to a great distance. This is peculiarly perceptible within the tropics, and in this country in summer, just as the sun sinks under the horizon; but when cold increases, and the particles of moisture become larger, these effects are diminished.

It follows, as matter of course, that its transit must be more or less rapid under such varying circumstances.

Water conducts more powerfully than the surrounding atmosphere, and, so far as I have been enabled to ascertain, with increased effect as it approaches the temperature of the human body.

This is exemplified in tropical rivers, and in the human ear, where this fluid

is the only body in contact with the acoustic nerve, to which it must communicate sound consistently with its original character.

The several points to which I have already adverted sufficiently demonstrate why the stethoscope should be hollow in the centre, and of limited thickness in its parts; and why any material pressure on any part of this instrument, so as to compress or alter the natural arrangements in the atoms of the wood, must deteriorate its conducting powers. Were this instrument to press much on the parietes of the chest, the atoms of the softer body must be compressed, and they would sink into the interstices of the harder, and vibration and sound would be checked at the points of contact.

On the other hand, if they be not in contact, a slight separation will produce the same effect in this case, as a crack in a bell, or any other sonorous body; because the air yielding in all directions to the hard bodies, also carries off sound in like manner.

Similar causes must produce similar effects between the stethoscope and the ear.

I hope to be enabled to point out various circumstances to evince, as advanced by Drs. Budd and Cowan, in the Medical Gazette, that the most dense bodies are not constituted to answer the purposes of the stethoscope, nor in fact in this case to convey sound to the ear consistently with its original character.

To doubt this would be to doubt molecular action, and its effects in sonorous bodies, as partially explained by Dr. Williams, in his fifth lecture in the Medical Gazette.

As in all hard bodies, sound is produced by agitation, and from every atom; so in passing by the atmosphere in any tube, new sounds being created, and the inflexions meeting in its axis, this must alter the character of the sounds which enter the tube, and make them more or less intense.

Thus copper or wood produces new and intense sounds, pasteboard dull sounds; woollen damps yet more; and any soft, yielding, cohesive substance, damps and arrests sounds. If a room be lined with woollen cloth, the atoms in the atmosphere within the room are arrested in their vibrating action on reaching the cloth, and the whole are affected throughout the room in succession.

Sound is damped in a hard body, on the same principles, when a soft non-elastic substance presses on any part of it; and the influence is more rapid than in the atmosphere, as the atoms are more compact, and do not yield to the same extent.

The sonorous powers of fir do not arise from the lightness of the fibre allowing freedom of excursion, as remarked by Dr. Williams. As well might it be said, that a cork suspended from a sling would vibrate in the atmosphere as decidedly as a leaden ball, or that a ponderous string produces less determined vibrations than a light string.

It is the compactness and tension of the fibre, and the loose and open nature of the material between the fibres, which give it effect and direction.

In a state of vegetation the sap is circulated between the fibrous parts; but when the wood is dry it is replaced by air in the cellular interstices, and the tissue between them becomes loose and open.

The cohesive and repulsive power of the fibre may be known by the great weight that this wood is capable of sustaining by longitudinal suspension, and what it will bear on the end without being materially compressed; whilst the loose texture between the fibres is proved by the ease with which it is compressed or drawn asunder in the reverse direction.

Here we have a concatenation of strings of considerable tension, sufficiently apart from each other to allow them to vibrate, but without so much freedom as to permit them to go beyond a certain distance, and prolong individual action and sound so much as the single string.

The undulations by this means produced in the direction of the fibre, are calculated to conduct and give out distinctly defined sounds, in accordance with the vibratory impressions made on the end of the wood in the stethoscope.

After having, as minutely as circumstances enabled me, investigated the action of sound in every situation and way that occurred to me, as a test of the accuracy

or inaccuracy of the conclusions to which my observations had brought me, I determined to analyse the organs of speech and hearing. In this my chief object was to ascertain whether there were any bodies in the ear to produce prolonged sounds; because, if there were not, neither could such be thrown upon it consistently with speech. I could not, however, reconcile the deductions resulting my former investigations, with the physical arrangements in the ear, and the popular theory as to the operations of sound in it. What first attracted my notice was the superior surface of the pinna, which varies more in form in different individuals than any part of the human frame; and considering the principles which are supposed to govern sound, it seemed evident that the effects produced by these different arrangements must also be very different; nor could I discover any thing in nature, resembling the pinna, which collected and determined sound to a given point.

Many able physiologists and anatomists admit, that, in certain cases, a portion of sound is conveyed to the internal ear through the solids; but I believe the universally prevalent opinion is, that predominant sounds enter by the aerial passage.

The component parts of the pinna on which sound impinges, except its extremities, are fibro-cartilaginous, the fibrous laminæ passing longitudinally into the ear, and the gristle is more brittle as it approaches the temporal bone. In fact its properties are analogous to those of the organs by which sound is produced in the human body, and it is found that all materials of similar tension and of brittle character, whether live or dead matter, are powerful conductors of sound; nor can it reach these without being diffused throughout, if not arrested, by some non-resonant substance, which is not the case in this instance.

I would here remark, that if faint sound produced in the chest, be conveyed by media little sonorous to the walls of the chest, and thence to the acoustic nerve, by what analogical reasoning is it concluded, that exceedingly more powerful impressions being made on any part of the external ear, shall not be conducted by its solids to this nerve?

The construction of the pinna is that of an expanded lever, of which cartilage around the meatus externus is the fulcrum, and a brittle elastic fulcrum.

The elevations of the helix and anti-helix, are so formed as to oppose and give force to the waves of sound, which have their proper influence from in front, so as to agitate the pinna. The direction of proper sounds is proved by the fact, that the face is always turned towards the source of sound, and the additional fact, that all intense sounds from behind bring confusion to the sense. It is then remarkable, that the tragus is placed in front, over the orifice in the external ear, so as to prevent the wave from in front directly entering this canal, and to throw it upon the helix or anti-helix, according to the degree of elevation in either, and by which it must necessarily experience new impulse and direction in an acute angle, to convey it to the auditory passage.

This canal, and the anterior surface of the membrana tympani, are lined with cerumen—a peculiarly soft, yielding, and adhesive body, which is calculated to arrest vibration, and its properties are converse to those of the saliva with which the mechanism of speech is lubricated, and without which we cannot articulate.

These are not the only impediments in the way of direct and intelligent sounds entering the ear by the aerial passage, but they do not prevent the atmospheric wave from acting on the membrane of the tympanum, and by means of the chain of bones in the central ear, agitating the mechanism of the labyrinth, and producing undulations in the fluid contained in it.

Whether sound in the stethoscope and in the human ear be conducted by the aerial passages, or by the solids, may be determined by solution of the following abstract principles:—

Do not hard bodies of limited thickness but extensive superficial surfaces, by the action and reaction of their atoms, produce intense and prolonged sounds in the ratio of their hardness?

Are not sounds produced in such hard bodies *in every case* of rapid agitation, and given out on their superficial surfaces?

Do not the component parts of the atmosphere yield and pass each other, and

are sounds of which the ear is sensible produced in these, without their coming in contact with other dense bodies, the atoms of which do not yield in like manner, or pass each other? If then the stethoscope, the interior surfaces of which are sonorous, conducts by the fibre of the wood more than by its surface, and hard bodies in general are more powerful productors and conductors of sound than the atmosphere, why is it concluded that the solids of the ear do not convey more sound to the auditory nerve than the meatus auditorius, which is lined by cohesive material, such as nature in no other situation employs as a conductor?

ON GALVANISM,

IN REFERENCE TO ITS THERAPEUTIC EFFECTS ON THE HUMAN SUBJECT.

By John Grantham.

I shall not recapitulate the numerous writers who have devoted their attention to the effects of galvanism, but take a retrospective view of the practical results of the chief experiments which have been performed. Many of these have been tried under an idea that the muscular system might be acted upon independently of the nerves. Vasali, Julis, and Rossi, made a great number of trials on decapitated individuals at Turin. Volta and Aldini asserted that the muscular system without the nerves could not be affected, while Fowler has made a contrary statement. In consequence of this uncertainty, many of the present day have failed to produce any beneficial results from the application of galvanism. Ritter has made some remarks on the different effects of the positive and negative wires, stating that the positive pole augments the functions of life, while the negative diminishes them, a statement, I think, not borne out by practice; and my belief is, that the notion of assigning a sedative quality to the direct effect of electricity is not correct; not but that a sedative effect may be the ulterior result of an over-stimulant action on the system. As regards the effects of galvanism on the functions of secretion, Dr. W. Philip has made very satifactory experiments, so as to set at rest that part of the question, by proving an analogous effect between galvanism and the nerves of organic life. In the British and Foreign Quarterly Review for October last are some interesting microscopic experiments, by Dr. Purkinje and Pappenheim, of Breslaw. They have demonstrated a set of mucous glands, which give out the active principle of digestion or the gastric juice, and also that these glands give out sufficient chloride of sodium, for the digestion of coagulated albumen. They have proved that if the nervous action in the stomach is either identical with or analogous to galvanism, it would be sufficient to account for the secretion of the quantity of muriatic acid requisite for digestion, without the assumption of a special organ of secretion. Dr. W. Philip has related some excellent cases of dyspepsia, where he fully shows the great advantage of galvanism. He states its application to be to assist the nerves of organic life, and not the nerves of volition. In his work on Indigestion, he has published a letter from Mr. Earle, giving a history of some trials of galvanism, which were satisfactory in three cases at St. Bartholomew's Hospital. Breschet has also added to the stock of information in this department.* Thus far has the science of galvanism been applied as a therapeutic agent, with the exception of two cases, published by myself in the 80th volume of the Medical Gazette, page 70; one a case of partial paralysis of the arm, the other a case of tic-douloureux, with some comments which assist in supporting the following remarks. These several deductions appear to me to be the result of my experience:—

* In the fifth number of Guy's Hospital Reports, Dr. Addison relates seven cases of chorea, where a well-directed attention to electricity proved of great service. Dr. A. confesses that he formerly attached as little value to electricity as remedial agent, as is ascribed to it by the profession in general, being "led greatly to underrate its efficacy in consequence of its vague and indiscriminate recommendation, or from the inefficient and careless manner in which it had been applied."

1st. Galvanism is identical with the vital action of the nerves of organic life, and the nerves of volition.

2dly. The action of galvanism is determined by the healthy condition of the brain and spinal marrow.

3dly. The skin must possess a normal sensation, as well as temperature, before the galvanic action can effect the muscular fibre.

4thly. The positive plate or wire should be applied over the region of the origin, and the negative to the region of the termination of the nerve.

5thly. The galvanic influence, when passed along the spine, will be most active in the paralysed limb.

6thly. Galvanism is assisted by the alkalies and the mercurial action.

7thly. Galvanism restores diminished temperature, decreased circulation, and lost muscular action, in the following order:—Temperature first; circulation second; and muscular action last.

8thly. Galvanism has no effect in disease that alters the structure of nerves.

9thly. It supersedes manual friction.

10thly. It is assisted by the affected limb being immersed in a warm bath, into which the negative plate or wire should be put. In passing a current from the head through one half of the body, the foot should be immersed in warm water.

11thly. It is injurious when much pain is caused in the muscles by its application.

12thly. It may be carried to an undue extent, so as to produce congestion of the brain.

The following cases are related in support of the above remarks:—

Wm. Borkitt, aged 47 years, of middle stature, by trade a shoemaker, applied to me in May 1838, in consequence of a painful affection of the left arm and hand. The extensor muscles of the forearm were nearly paralyzed; the animal heat reduced so that he could not keep the arm warm; the pulse slower in the affected arm than the other. He stated, that during the last twelve months he felt occasional pains, which gradually increased in the outer part of the shoulder, extending down the radial side of the arm to the tips of the fore, middle, and half of the ring fingers. The pain was generally followed by a cold sensation, succeeded by a burning heat and total inability to retain any substance between the finger and thumb. The median nerve, in this case, appeared to be the one principally affected. I ordered him, for the space of fourteen days, to immerse the limb in a mustard bath twice a-day, and to use friction to the arm, with hog's-lard; to take magnesiæ sulphatis, ℥ij in a wine-glass of chamomile tea every morning. Still the pain, with loss of power, continued. I then ordered to be used a stimulant embrocation of liq. ammoniæ and linimentum saponis, which brought out an eruption of small boils over the whole limb; yet the pain and inability remained. I then gave him the pilulæ hydrargyri, so as to produce ptyalism, which greatly improved his health, notwithstanding which the inability to use the hand and arm remained the same; but the pain somewhat subsided, and became not so frequent or severe. I now began to apply galvanism, by means of a battery of 24 cups, containing the segment of a circle of plates of copper and zinc, four inches square, immersed in diluted muriatic acid, which being continued daily, from the shoulder to the hand, for three weeks, the pain entirely subsided, the skin regained its normal temperature, and the hand its power. At this stage of the case I deemed it more advisable that my patient should go to agricultural labour before he resumed his occupation as a shoemaker, which he did for the space of two months: by so doing he improved his general strength, and, with the exception of a benumbed feeling at the tip of the middle finger, the use of the hand and arm is quite restored.

Mrs. Ballard, 36 years of age, applied to me May 22d, 1837. I found her suffering from a partial staphylomatous appearance of the eyes, an inflamed conjunctiva, and an extreme sensibility on the admission of light; the upper lids in constant action, with immobility of the iris. On the admission of light it caused pain in the head, over the upper and back part of each parietal bone. The mind much depressed; general debility; the tongue white, with numerous papillæ on its

surface; bowels torpid; the evacuations deficient in bile; the urine very irregular as to quantity and quality; the skin dry. On my first inspection of this case, I considered the pain in the head and the mental depression to arise in part from hepatic derangement. I ordered her pil. hydr. gr. ij. and acid. nitrici, gtt. iij. in barley-water, three times a-day; conjoined a milk diet night and morning, with beef-tea or mutton-broth for dinner. This plan had the desired effect of removing the cerebral symptoms, and correcting the functions of the liver and intestines: nevertheless the involuntary action of the upper lids continued, and the extreme sensibility on the admission of light, with almost a completely paralytic state of the iris. I now ordered a tepid shower-bath to be used every morning; to take a more solid diet of animal food without stimulants; to walk, gradually increasing the distance so as not to produce fatigue. I also passed galvanic shocks, from eighteen cups and three inches square plates, through the upper and back part of the head to the exit of the superior and inferior orbitar nerves, and through the temporal bones. At the end of five weeks after using the galvanism, I had the satisfaction to see a steady improvement. The eyelids became regular in their action, and the iris obedient to the ingress of light, and the system generally improved; so that she was enabled to resume her duties as a confidential servant in a highly-respectable family. Previous to the application of galvanism, there was a great diminution of temperature as well as sensation over the whole skin. This case had been submitted to medical treatment in London, for seven months previous to my attendance; and I feel fully persuaded that, without the aid of galvanism, the other measures would have only afforded partial relief. She has remained well up to the date of this paper.

Mrs. Doust, aged 29 years, applied to me March 3, 1835. She had been attacked with paralysis of the left side of the head, face, left arm, and leg. She was the mother of six children, was of plethoric habit, and had had three abortions at the sixth month of gestation. With the use of depletory measures and the mercurial action her health became much restored, with partial use of the hand and leg.

In June 1837, while at work as a penciller in a printing manufactory, she had a most painful spasmodic action of the left arm, which was relieved by a repetition of small doses of ant. tart. and sulphas magnesiæ, and leading a more active life. After a time the arm became less useful, so that she could not raise it from her side.

August 1837, I applied the galvanic influence to the arm, but with little or no benefit, as the brain soon became congested, and it was found futile to continue its use.

May 1838, she had another attack of paralysis, with menorrhagia, which I treated with venesection, and assafœtida with neutral salts. The health being restored, I determined on again persevering with the galvanic agency, in conjunction with the use of mercury. Consequently I commenced passing shocks of galvanism from the nape and side of the neck to the arm, with a battery of twelve cups, containing plates the segment of a circle, six inches by three, immersed in diluted muriatic acid. This method of passing the shocks was attended with great irregularity as to its effect. I then had the foot put into a hot bath, into which I placed the negative plate. (I should have observed, I use two plates, three inches square, which are applied to the surface of the skin, and communicate with the wires from the cups.) The shocks passed more freely down the leg, but were not felt in the arm. Removing the positive plate to the spine, opposite the lumbar vertebræ, I kept the negative plate in the foot-bath. By this application the galvanic action became most powerful in the left arm and hand to the tips of the fingers, producing very violent extension of the arm. At the end of fourteen days I suspended the use of the mercury and gave her one drachm of the carbonate of iron three times a day, continuing the daily application of the galvanism, by which means she recovered the full use of the leg and arm, but not the fingers, although she could manage to tie a knot.

In this case the cerebral congestion increased according to the increased action of the galvanic agent. It also shows a very singular action of galvanism. I have ventured to attribute this strange effect to the agent passing to the origin

of the cervical nerves through the grand sympathetic nerve, as an unusual heat was felt in the stomach and bowels. Certain it is, she only regained the action of the muscles of the arm and hand as the galvanism was passed through the lower portion of the spine to the foot.

May 9, 1838.—Mr. B. H. Goldie, a clerk in the ordnance department, sought my advice in consequence of paralysis affecting the whole of the left side of the body (hemiplegia). He is a man of full stature, fair complexion, temperament melancholic; he also suffered from an unreduced dislocation of the right os femoris on the dorsum of the ilium, so that he was quite helpless. He stated that about fourteen years ago he slipped off the steps of a friend's house, and ruptured the tendo-Achillis of the left leg. In consequence of the passive treatment then enjoined, a gradual loss of voluntary power over the muscles of the left arm and leg succeeded, extending upwards to the half of the head, with diminished circulation, and constant sense of coldness, not only in the extremities of the left side, but in the side of the chest and body. The left upper eyelid fell so as nearly to obliterate vision. His habits of life were sedentary, and very abstemious both in eating and drinking. The bowels were sluggish, indicative of torpor of the liver; urine generally high coloured, and lessened in quantity. The pulse on the right radial artery 86 in the minute; on the left radial artery 74 in the minute. In this case I, from the onset, had an ulterior view to the application of galvanism, but not until the secretions were corrected. I ordered him to abstain from animal food, and have recourse to a bread and milk diet, and to take—

Pil. Hydr gr. v.; Pil. Rhei C. gr. v. every night; with a draught in the morning composed of Vin. Colchici, ℥ss.; Liq. Ammoniæ Acetatis, ℥ss.; Sol. Magnesiæ Sulphatis, ℥j.

May 16th.—I took eight ounces of blood from the arm, which very much relieved the brain; continued the medicine with the use of the warm bath, at 105° Fah., twice a week until the first of July, occasionally suspending the aperients, according to the action of the bowels, so as not to produce mucous evacuations. I now recommended him to take a wine glass of Griffith's mixture twice a day, and use the flesh-brush to his limbs. The mental depression subsided, and the secretions became healthy, with a more equal state of the temperature and circulation.

July 16th.—I commenced the daily application of galvanism (with a battery of forty-eight pair of plates, three inches square, arranged after the *couronne de tassa* of the French, the plates being circular), passing the shocks from the head, neck, and spine, down to the foot, which was immersed in a hot bath, into which I put the negative plate. During the first week my patient experienced only a gentle warmth, which greatly increased up to the tenth day. The pulse then rose. On the thirteenth day the muscles began to act rapidly and very powerfully, so that on the twenty-first day he lifted the leg and foot out of the bath without aid, and grasped very firmly with the left hand. The galvanism was continued, with increasing power, until it could hardly be borne by the patient; only lessened in effect when he had slight cold or febrile action, from change of weather, &c. During this process, in consequence of congestion of the brain, I found it necessary a second time to bleed him to the amount of eight ounces.

Aug. 16th.—I discontinued the use of the galvanism, he now being able to walk with a stick and crutch.

Oct. 23d.—He resumed his duties in excellent health, but still with some defect in the muscular power of the left arm and leg. I ought also to observe, that the left leg and foot were œdematous; also the tendo-Achillis was much thickened where it had been ruptured: this also was reduced.—*Med. Gaz.*

ON THE DIVISION OF THE PROSTATE IN LITHOTOMY.

BY H. M. PHILLIPPS.

Assistant-Surgeon to the Royal Cornwall Infirmary.

A SENSE of duty induces me to communicate to the profession, through your journal, a fact of some practical importance, which I hope will benefit my fellow-

creatures, by diminishing the risk of life usually attending the lateral operation of *lithotomy*. The dangers to be apprehended from which are, hæmorrhage, puncture of the rectum, peritoneal inflammation, with purulent deposition about the neck of the bladder; and infiltration of urine, with its consequences. All these may be avoided, as I consider, by adopting the following *modification* of the operation, which I now strenuously recommend to all operating surgeons.

Having introduced a straight grooved staff into the bladder, and having reached the membranous portion of the urethra by the usual incisions on the left side of the perineum, I cut into the groove of the staff. The staff being still firmly held by an assistant, I introduce the nail of the fore finger of the left hand into the groove, then insert the point of the knife also into the groove in advance of the finger, its flat surface resting on and parallel to the plane of the nail; both are then carried steadily onward until the knife enters the bladder, indicated by the gush of water; it is then withdrawn and the *finger* alone is pushed firmly and fairly into the bladder. The forceps is then introduced upon the finger (the best director in all operations), and the stone is embraced.

It will be seen that the principle acted upon here is the same as that which proved so successful in the hands of Cheselden, and was so warmly commended by Sir Astley Cooper; namely, the partial separation of the upper from the lower portion of the prostate gland with the knife, completing the separation to the necessary extent without a cutting instrument. Cheselden used for this purpose the blunt-curved gorget; I use *the finger*. And I do declare, having tried this method on the adult, I have found no difficulty whatever in enlarging the opening sufficiently, by simply protruding the finger into the bladder, which is accompanied with the sensation of a slight tearing.

The advantages of this mode of operating are—the certainty of avoiding hæmorrhage, or of puncturing the rectum, and the equal certainty of being able to make the opening into the bladder large enough to extract the stone, and no larger. I may add, that I never yet found any perineum too deep to prevent my enlarging the section of the prostate with the finger; and I am quite satisfied that any lithotomist who may adopt this method will not readily abandon it.—*Ibid.*

M. RAYER ON DISEASES OF THE KIDNEYS.*

This distinguished physician of La Charité has for some years past devoted much of his attention to the pathology of the Urino-poietic organs. In the course of last year he published the results of his enquiries in his "Traité des Maladies des Reins, etudiées en elles-memes, et dans leurs rapports avec les maladies des ureteres, de la vessie, de la prostate, et de l'urethre."

The high importance of examining the chemical condition of the urine in many cases, especially in all those whose nature and symptoms are obscure, has been recognized of late by all practical physicians. In the present day, no one ever omits to investigate the exact state of the thoracic organs, the heart as well as the respiratory organs, by means of auscultation; and the great value of the signs afforded by this mode of enquiry is too obvious to require any comments of ours at present.

The *seemingly astonishing increase* of diseases of the heart of late years is altogether attributable to the improved means of exploration now in use, and to the consequent greater accuracy of diagnosis.

It is unnecessary to say how much we owe to the labours of Laennec on this score.

No less important is the examination of the urine in the ætiological history of many diseases.

The important discovery of Dr. Bright that an albuminous state of this secretion is very frequently associated with, and symptomatic of, structural disease of the kidneys, has been one of the main causes of the attention paid, of recent years, to this subject. Some form of dropsical effusion, more especially anasarca,

* Medico-Chirurgical Review.

is a common accompaniment of this state of the urine ; but it is not necessarily, or inevitably, so. The urine may be for a length of time charged with albumen, and yet scarcely any dropsical effusion may be present ; and again, this effusion, although it has taken place, may be dispersed, and yet the urine may retain its diseased characters.

It is necessary, however, to observe that the urine does occasionally exhibit traces of the presence of albumen, when the kidneys are not at all affected. Such may be the case in certain inflammatory, or perhaps rather in the sequelæ of certain inflammatory disorders, such as scarlatina, measles, &c.

But under such circumstances, the symptom does not continue long, the albumen is usually in small quantities, and there is no uneasiness or pain in either of the lumbar regions.

On the other hand, whenever the albuminous condition of the urine (*albuminuria*) continues for a length of time, and is accompanied with lumbar uneasiness, and with partial dropsy, there are strong grounds of suspicion that the kidneys are more or less affected with that disease, to which M. Rayer has given the name of *Nephritis Albuminosa.*

The following is the process recommended by M. Desir in his thesis (de la presence de l'albumine, dans Dec. 1835), to detect the presence of albumen in the urine.

After filtering it, if it be troubled or thick, and adding a small portion of acid, if it be alkaline, it is to be exposed to heat, either in a tube over the flame of a lamp, or in an open vessel on a sand or water bath.

If nitric acid be employed, it should be added drop by drop.

By employing both methods, we shall succeed in detecting the smallest traces of albumen.

It is to be remembered that albuminous urine, if this be alkaline, will not coagulate by heat. If the albumen is in minute quantity, the urine becomes somewhat opaque : but the coagulation is instantaneous, whenever an acid is added. On the contrary, we occasionally meet with alkaline urine, which exhibits, on the application of heat, flocculi somewhat similar to those of albumen, but becomes clear again when an acid is added to it.

M. Rayer has investigated, with great minuteness, those morbid changes of the kidneys, in which the urine is found charged with albumen, and has represented them most faithfully and beautifully in the atlas of engravings accompanying his work.

He has come to the conclusion that all these changes are the products of chronic inflammatory action ; and, upon this ground, he has designated them all under the general appellation of *Nephritis Albuminosa.*

M. Rayer has described, with great accuracy, the incipient changes in the structure of the kidneys. He says, that in the first or early stage of the disease, these organs are enlarged in size—their weight being increased from 4 or 5 oz. (the average weight of a healthy kidney) to 8 or even 12 oz. Their consistence is firm without being hard ; their colour is more or less deeply red, and often exhibits the appearance of being dotted with spots of a deeper hue than the rest of their surface. On cutting through a kidney in this state, we find that the increase in bulk arises from the tumefaction and congestion of the cortical substance.

This tissue exhibits a number of minute red points, similar to those observed on the surface, and corresponding for the most part, to the highly vascular glandules of Malpighi.

If to these considerations we add that, during life, the lumbar regions are always more or less tender on pressure, and that a regulated antiphlogistic regimen is of decided utility at this, the early, period of the disease, and that blood drawn usually exhibits a more or less decided buffy coat on its surface, we cannot surely hesitate to regard the early morbid change to be one that is strictly inflammatory.

The *second* stage of the disease is indicated by the following pathological condition. The volume and weight are still considerably increased ; but the special character of this period is the admixture of pale and of congested spots (anemies

et hyperemies), which gives a marbled aspect to the surface of the kidney. The tumefied cortical substance exhibits, on incision, a pale, yellowish, spotted appearance, while the inner or tubular substance is of a reddish brown colour.

In the *third* stage, the cortical substance presents a uniformly pale colour, sometimes of a yellowish rosy white, or of a hue still more pale, and similar to that of eels' flesh.

The partial vascular engorgement has given way to a more decided *anemia;* but the organ still remains tumefied, and exhibits the vestiges of an inflammation, where resolution has made no progress.

In the more advanced periods of this stage, we observe what has been called the granulated state of the kidneys.

The diseased organs are still more bulky and weighty than in health; their external surface is sprinkled over with minute dots of a milky-white or yellowish colour; but there is no prominence or unevenness to be felt by the finger. These small milky spots are designated by Dr. Bright *granulations.* Sometimes they are confined chiefly to the outer surface of the organ, while at other times they occupy the entire thickness of the cortical substance.

If the kidney be sliced across from its convex to its concave edge, the cortical substance—which is still swollen and more bulky than in health, especially in the prolongations between the cones—exhibits, as in the former stages of the disease, a generally *anæmic* and yellowish aspect, which contrasts very strikingly with the deep red colour of the tubular or inner portion.

Now these changes are all the results of inflammatory action. That such has existed is indicated by the increase of bulk and weight of the viscus, and by the gradual transition from a state of high sanguineous congestion to that of general anæmia and yellowish *degeneration.*

Although the kidneys are, in most cases, augmented in size in the disease, which we have been describing above, it is to be remembered that in certain instances they are actually smaller than in health.

When this is the case, their structure is usually firm and hard, and their surface uneven and irregular. There may perhaps be no white milky spots to be seen on the outside; but, on making an incision through the affected kidney, we generally perceive a certain number of them imbedded in the cortical substance.

From all these remarks it appears that in *Nephritis Albuminosa* it is the cortical substance of the kidneys, which is primarily and most seriously diseased. It is in it, that the vascular engorgement takes place, and that the granulations of Bright are formed. We may therefore say that the *Nephritis Albuminosa* is a *Nephritis* of the cortical substance.

With respect to the special characters of this form of Nephritis,—independently of its anatomical and pathological phenomena—they may be stated to be, 1st, the elimination and discharge from the system of albumen dissolved in the urine, and, 2dly, the entire absence of any tendency to suppuration in the affected tissue—such as we observe in other forms of the disease; for example in the *Nephritis calculosa*, and the *Nephritis*, which not unfrequently is present in typhus and yellow-fever, &c. The discharge from the system of albumen by the urine must, in course of time, exert injurious consequences on the general health. The serum of the blood loses part of its specific gravity, as M. Rayer has discovered by examining the blood drawn from his patients. There is a marked tendency, in various parts of the body, to take on a chronic inflammatory action —for example the brain, pleuræ, and the abdominal viscera;—and the disposition to dropsical effusion is well known to every physician.

Our forefathers ascribed high value to the state of the urine as a means of *prognosis;* drawing, from its varying characters, conclusions as to the coction of the humors, the approach of crises or important changes, the influence of critical days, the gravity of the disorder, and the chances of recovery. In the present day, we study the urine as a means rather of *diagnosis*, than of *prognosis;* and, to arrive at accuracy of the former, we examine the secretion in its relations of acidity, alkalinity, and whether it contains pus, or albumen, or sugar, or spermatic animalculæ, &c.

In this way only can we hope to form accurate conclusions, regarding the true nature of a number of very obscure and puzzling cases.

In concluding this brief sketch of M. Rayer's researches, we cannot do better than highly recommend the perusal of the original work to the careful perusal of our practical readers.—*L'Experience.*

INHALATION OF CARBONIC ACID.

To the Editor of the Medical Gazette.

Sir,—Enclosed I send you the *post-mortem* appearances of George Bell. I was most ably assisted by my friends,—Busk, Esq., of the Dreadnought (Seaman's Hospital Ship), and — Sherwin, Esq., of Greenwich. The appearances before death were those of a person labouring under apoplexy, with constant spasms of a tetanic nature: coma and aphonia prevailed from the moment he was taken out of the pit until death, which took place eighty hours after the accident. The blood drawn from the arm was of the colour of preserved damsons. The case and treatment will be laid before the Kent Medico-Chirurgical Society on Monday, the 17th instant. The post-mortem did not take place till after the inquest. It was kindly allowed by the widow and friends of the deceased.

I remain, yours respectfully,

Richard C. Hore.

Blackheath Hill, Dec. 6, 1838.

Account of the appearances noted in the body of George Bell, æt. 38, whose death was occasioned from the inhalation of carbonic oxide, &c.

Inspection forty hours after death.

1. Body muscular, considerably emaciated, extremely rigid; light purple posteriorly, with large white spaces where pressure had existed; many small, irregular, purple blotches on the anterior surface of the thighs, groins, and abdomen, and a few on the chest and arms; slight greenness in the flanks. Countenance pale; pupils dilated.

2. Scalp thin and bloodless; vessels of dura mater congested, and all the sinuses full of blood; general fulness of the vessels of the pia mater; the basilar artery, and the arteries of the corpus callosum, were full of coagulated blood; arachnoid transparent, slight sub-arachnoid effusion in the depending parts. About one drachm of clear fluid in the lateral ventricles; choroid plexus very pale, containing a few serous vesicles; cerebral substance everywhere of normal appearance and consistence, presenting large, but not numerous, bloody points in the posterior lobes of the hemispheres. About six drachms of fluid remained in the base of the cranium after the brain was removed.

3. Both lungs perfectly free; no fluid in the pleura; lungs hardly at all contracted, pale and emphysematous anteriorly, of a light purple colour posteriorly, every where crepitant; tissue not infiltrated, light, and of normal consistence; laryngeal and tracheal mucous membranes pale and smooth, becoming somewhat vascular about the bifurcation of the bronchi, but it was perfectly smooth and healthy, though purplish, in the minute tubes. The trachea contained a small quantity of light white salivary froth.

Pericardium and heart perfectly healthy, not contracted; some dark grumous coagula filled the right cavities, mixed with a small fibrinous clot; the left ventricle contained a very small quantity of dark clot. The blood contained in the large vessels was coagulated and dark.

4. Anterior half of the tongue was covered with a thick light grey-coloured crust, which was easily detached. Mucous membrane at the base of tongue and in the pharynx slightly vascular; follicles at base of tongue somewhat developed, and the epithelium on the sides of the pharynx slightly detached. Œsophagus healthy. Stomach contracted, containing a considerable quantity of bilious fluid, by which the mucous membrane was deeply stained, the stain being deepest on the rugæ; otherwise the mucous membrane was pale, and of normal thickness and consistence, somewhat mammillated towards the pylorus.

Small intestines were perfectly healthy throughout; no development of Peyerian patches at the end of the ileum.

Large intestines. Mucous membrane of the cæcum of a deep purple colour, as if ecchymosed, but of normal thickness and consistence; elsewhere the membrane was pale, and perfectly healthy. The large intestine contained a large quantity of soft fæcal matter; fluid in the cæcum.

Liver of perfectly healthy appearance and colour.

Gall bladder full.

Kidneys dark coloured from congestion; otherwise perfectly healthy.

Bladder empty, and firmly contracted.—*Med. Gaz.*

ON HOT SALINE ENEMATA IN CHOLERA.

Communicated by Sir JAMES M'GRIGOR, Bart., Director-General Army Medical Department.

The following extracts of letters from Assistant-Surgeon Morgan, addressed to Dr. Murray, Deputy Inspector-General of Hospitals at Madras, describe the late outbreak and treatment of cholera in H. M. 57th regiment at Cannanore:—

Cannanore, 12th August, 1838.

The disease was novel to the men of the 57th regiment; and although they knew that it had been for some time in their immediate neighbourhood, yet they were not prepared to recognize it when it first presented itself among themselves. Thus the first three cases, as I may say, ran a fatal course before they were subjected to any treatment. In them the hyperemesis, diarrhœa, spasms, and pain of all kinds, had ceased; and the chief indications of life were an imperfect hurried respiration, and low sepulchral moanings. The indication of cure was obviously to stimulate, both externally and internally, with the application of warmth. A draught containing a drachm of tincture of capsicum, a drachm of liquor ammoniæ, half an ounce of brandy, and 60 drops of laudanum, with hot water or an ounce and a half of camphor mixture, was given, to wash down a pill of 10 grains of calomel and one or two of opium. Warm sand bags and hot water bottles were applied to various parts of the body, and to the legs and feet. The draught, without the mixture of opium, was repeated at intervals of from half an hour to an hour and a half, especially if the first was rejected, which several times occurred. The calomel was repeated to the same extent in powder, without opium, after an interval of three hours; and, as there was no alvine action, purging enemata were administered occasionally in every case. These were composed of an ounce of common salt, with some castor oil, and a pint of hot water. In the above instances where the enemas were used they were made *hot*, with the view of supplying heat to a large intestinal surface. Blisters were tried to be raised on the nape along the spinal column, and on the pit of the stomach; but this process was imperfectly accomplished, or altogether failed, owing to the insensibility and wetness of the surface. Leeches were applied in two instances to the temples, to relieve the loaded veins, but without doing any good. Thirst was alleviated by effervescing saline draughts, weak brandy and water, and soda-water (as it is called). In the three cases here alluded to, croton oil with compound extract of colocynth and gamboge were administered once or twice before death, but without effect of any kind. The croton oil was given in doses of from three drops to five drops, and the other cathartics in doses rather larger than usual; they were given (after the administration of powerful diffusible stimulants) to endeavour to get the bowels to act, because no evacuation of that kind was going on. Opium was administered sparingly, because the only proof of irritation was constant jactitation, and the powers of life were already torpid, nay overwhelmed, as if the cerebral and ganglionic systems had been blighted by a mephitic vapour. Unquenchable thirst was the only thing complained of by the unfortunate patients. They had been severally sixteen, twelve, and ten hours ill before they were reported, and I felt certain, from sad experience, that no human power could raise from their devoted frames the icy hand of death. As *usual*, the bodies became *warm*, *or*

even hot, a short time after death; the blueness and shrivelling of the skin disappeared, the features filled up, and the countenance resumed, comparatively, the calm and natural expression of health. The post mortem appearances were (also as usual) most unsatisfactory. Congestion of the venous system, an inflammatory blush pervading the stomach and small intestines, with slight serous effusion into the pericardium, were all that could be detected in the two great cavities. The head was not examined, because I knew that venous congestion of the cerebral substances and meninges, with serous effusion into the ventricles and base of the brain (in such slight degree as to be a possible result of death), are the only, and almost constant, traces of this cruel and mysterious disease in that part of the body.

The fourth fatal case, although affording hopes during its progress of a better result, resembled the others so much in all essential characters, and in its general treatment, that I shall at once pass to the fifth case, which occurred subsequently to the receipt of your letter, recommending a trial to be made of the *hot saline enemata.*

The poor fellow was the hospital serjeant, a most temperate, well conducted, young, and healthy man. Strange to say, although he had seen his comrades dying only a few days before, in consequence of procrastination in reporting themselves sick, he suffered himself to fall a victim to the same error. He had been slightly ailing during the day (3d August), and at 2 P.M. was purged, which was several times repeated before 8 P.M.; but he said nothing about it, and thought it merely a slight irregularity of bowels, occasioned by his having that day eaten some cold potatoes for dinner, as these composed the chief part of his evacuations. He went round the hospital with me at 5, and again at 8 P.M., and I observed nothing the matter with him. He went to bed, but did not sleep; was again purged, and at 2 o'clock A.M. (4th August) was seized with vomiting, when he ejected a quantity of cold potatoes and meat unchanged. He then felt very ill, and sent for Mr. Neville, who was in waiting that night, and who saw him immediately, and found him with all the worst symptoms of cholera:—Eyes sunk, voice shrill, pulse weak, and easily compressed, skin moist and cold; the vomiting continued, and the motions were conjee-like. Agreeably to a memorandum left by me to that effect, a hot saline enema (of the prescribed form) was immediately given, and repeated every half hour. On my arrival it was given for ten successive times, and persevered in till he sunk at 2 P.M. He never showed the least symptom of rallying. The pulsation at the wrist ceased at 4 A.M. The other remedies employed were nearly as in the first cases, except that the stimulants were very sparingly given, and diluents freely. His secretions were all suspended, except that of perspiration, which had a horrid fœtor. With each enema there came away a quantity of rice-like flocculi; a characteristic symptom of the disease. Thus the first trial of the hot saline enemata failed, and they had perfect justice done to them in all but the subject, and that was too far advanced. Three men from the barracks were admitted during the day and night in which these events are recorded to have taken place. The disease in all was in its incursive stage, the *hot saline enemata* were vigorously adopted in all from the very commencement, and continued until decided reaction set in. The rest of the treatment consisted in calomel and warm cathartics, with blisters and stimulant frictions. The re-action, I must say, *was speedy and far more salutary* than that from spiritous stimulants, which were here almost entirely withheld. Their convalescence has been uninterrupted, and I am glad to say no other case has since occurred.

"(Signed) A. B. Morgan,
Assistant-Surgeon."

"Cannanore. 23d Aug. 1838.

"I have to communicate to you that although the cholera did not absolutely cease to afflict us after I last wrote, as I fondly anticipated, its further appearance has been restricted to three cases. Immediately after my former letter was despatched they presented themselves. One of them, the man who laboured so long under scurvy (originating in the prison cells), whose case you called for, and who had been for some time at his duty, apparently, in a state of rude (though recently acquired) health. He had been ill for eighteen hours before he reported

himself; and when admitted he was in a state of collapse. All efforts to resuscitate him proved fruitless. The hot saline enemata were vigorously persevered in, and stimulants employed; but in vain. The other two were brought under treatment early in the incursive stage of the disease, and speedily recovered.

The *hot saline enemata* I am inclined to think favourably of, especially in the early stage of the disease, assisted by calomel and opium, with powerful and extensive counter-irritation; but it is by no means a *self-sufficient* lever to raise the load that weighs upon the heart, or, perhaps, upon the brain. When you reach your patient pulseless, cold, and wet, with his voice a whistling whisper, his eyes sunk back in their sockets, his face blue, and his fingers like a washerwoman's (only more livid), I do not believe that hot saline enemata will have any good effect, if solely trusted to. There is not a doubt that internal stimulants ought then to be used (in moderation) along with the enemata, and external warmth, friction, shampooing, punkahing, and counter-irritation—without disturbing the patient much, which exhausts him. I have rather a partiality to the application of scalding hot water to the epigastric region and spine as a counter-irritant, as its effect is the quickest, and seems to be most penetrating and rousing to the suspended vitality. But, in many cases, I am certain nothing can succeed.

The *cold affusion* was tried at Madras, in 1830–1, in the shape of a shower bath; but, as far as I can remember, it was not found to answer. I see you recommend it only to the upper parts of the body, and that its application should be sudden and momentary; as by turning the patient's head over the side of the bed, and dashing his face—repeating it occasionally while it appears to be agreeable to him, and to rouse him. In this way it may assist moderate bleeding, calomel, shampooing, counter-irritation, and the hot saline enemata, in keeping the circulation from flagging; but I am of opinion that it can only be employed in the early stage to do good; for I cannot suppose that cold affusion can be of advantage to a person in an advanced stage of the disease, when he is a *fac simile* of one dragged out of a cold river, after having been long enough submerged to be asphyxiated. However, every feasible remedy should be fairly tried, and I shall not overlook your suggestions if opportunities occur to put them to the test, which I trust in God may not be the case. The disease is more easily prevented than cured, as is clear from the history of it in the British army, both here and at home, when proper precautions could be, and were taken; and I feel confident that the judicious arrangements made by Colonel Jones, of the 57th regiment, on its prevalence in the neighbourhood, and appearance in the corps, helped materially to *Burke* it with us.

We have been now more than ten days exempt from any fresh attack; but I would mention that, in the hospital, a few of the worst cases of dysentery took on the livid asphyxiated appearance of the epidemic; and that all our cases of dysentery have been usually severe since the commencement of the rainy season.

It is curious that the epidemic, which seems now on its decline, has never attacked the two native regiments stationed here, although one of them is cantoned close to the camp Bazaar (as it is called), where the disease has been especially severe and rife.

"(Signed) A. B. Morgan,
Assistant-Surgeon."

Note by Dr. Murray.

It appears from all that I learn of the hot saline enemata, that they are a remedy of considerable efficacy in all the first stages of cholera, when carefully and perseveringly administered; and that they prove a valuable addition to the other approved means of cure.—*Ibid.*

AMPUTATION OF THE NECK OF THE UTERUS.

M. Retzius, of Stockholm, performed this operation, during the year 1832, three times,—but on each occasion, the carcinomatous affection returned, and extended to the rest of the uterus. His experience is opposed to that of M. Lisfranc, and, from the numerous examinations of the dead body which he has made, he is convinced that carcinoma is rarely confined to the neck of the uterus.—*Lancet.*

BIBLIOGRAPHY.

A Lecture on Loxarthrus, or Club Foot. By Thomas D. Mutter, M. D., Lecturer on Surgery, Fellow of the College of Physicians, Member of the Academy of Natural Sciences of Philadelphia, Honorary Member of the Medical Society of Philadelphia, &c., &c. Philadelphia. Hooker and Claxton.

This lecture places before the reader, the different species and the causes of club foot, and the appearances, on dissection, of the deformed member. The three species, viz. *Varus*, *Valgus*, and *Pes Equinus* are, each of them, illustrated by wood cuts. Liability and prognosis are, then, discussed, and the diagnosis and treatment subsequently detailed. For the better understanding of this latter, there are engraved representations of the apparatus used by Dr. Mutter for maintaining extension of the limb, before and after the operation. This last consists in cutting the Tendo Achillis, and on occasions other tendons, the muscles of which by their contraction keep up the distortion of the limb. We do not copy the details on this head given in the lecture, familiar as many of them are to the readers of this Journal. Besides, as our hope is that all who desire a clear history of the nature and treatment of club foot, will become possessors of the small volume of Dr. Mutter, we shall not give a partial exhibition of its contents by any extracts. The last twenty-five pages are taken up with the details of twenty-eight cases in which the operation of cutting the tendons was performed, and the extending apparatus subsequently applied by Dr. Mutter, with the most satisfactory results.

Case of Osteo-Sarcoma of the Lower Jaw, as operated upon Robert Penman, aged twenty-four years, from Coldstream (Scotland). Philadelphia. 1839.

Facing the title page of the small pamphlet in which this case is detailed are two coloured drawings, representing, one the appearance of the mouth and jaw before the operation, the other after it. The contrast is sufficiently striking, although the limner has not taken any pains to flatter the amended face.

It was in order to satisfy the curiosity expressed by many persons in this community, that the present pamphlet has been published. The motive is certainly a laudable one, and merits public gratitude,—the more so as we do not see in the matter any covert puff of the successful operator. We should probably be carrying out the design of Mr. Penman if we were to copy the leading particulars of the statement with which he has favoured us, in the words too of a professional gentleman who was present at the operation, and by whose counsel and assistance he was enabled to avail of the skill of the successful surgeon, Mr. Syme of Edinburgh, after Mr. Liston and others had pronounced his case to be incurable. On a future occasion we may perhaps transfer to this Journal the narrative portion of the pamphlet before us.

Annual Interments in the City and County of New York, for the year 1838: with accompanying Remarks. Presented by Henry G. Dunnel, City Inspector. Pp. 25. New York.

The report presented by Mr. Dunnel exhibits, under the head of the Diseases

of some of the chief systems, the proportionate mortality of the two sexes, at different ages and of different colours (black and white). It is very full, and prepared evidently with great care and, we may suppose, accuracy. The total of deaths, in the city of New York during the year 1838, was 7533, exclusive of the still-born cases to the number of 520. The greatest number of deaths for any one month was in August, having been, during that month, 890; and the smallest number 490, in June. Next to these, on their respective sides, were September which exhibits 798, and May 494.

The proportion of the two sexes and colours, and the rate of deaths are exhibited in the following table:

	Under one year.	*1 yr to 2*	*2 to 5*	*5 to 10*	*10 to 20*	*20 to 30*	*30 to 40*	*40 to 50*	*50 to 60*	*60 to 70*	*70 to 80*	*80 to 90*	*90 to 100*	*Unknown.*
White M's	1052	467	382	165	132	340	472	322	197	136	59	12	6	28
White F's	841	465	370	140	140	338	290	182	101	98	79	36	12	10
Black M's	84	28	20	10	12	34	51	32	16	13	4	6	1	1
Black F's	74	23	30	10	15	49	47	27	11	14	6	4	2	2
Rate per cent. of deaths of each class between certain ages.														
	Under													
White M's	5 years..	25.22	1.19	1.75	4.51	6.26	4.27	2.61	1.8	.78		.63	.37	
White F's	,,	22.24	1.85	1.85	4.48	3.84	2.41	1.38	1.3	1.3		.63	.13	
Black M's	,,	1.75	.13	.15	.45	.67	.42	.21	.17	.05		.1		
Black F's	,,	1.68	.13	.19	.65	.62	.35	.14	.18	.07		.07		
Per Ct Total.	,,	50.91	4.31	3.96	10.1	11.41	7.47	4.35	3.46	1.83		1.46	.54	

The Interments were in the Cemeteries belonging to the following denominations:

African, 179; Baptist, 165; Catholic, 2685; Dutch Reformed, 316; Friends, 53; German, 141; Hebrew, 25; Marble Cemeteries, 181; Methodist, 1190; Presbyterian, 979; Protestant Episcopal, 625; Potters' Field, 1514.

From the returns it appears there died at the following places,—

The Alms House, Bellevue, 372; Alms House Hospital, Bellevue, 224; Penitentiary Hospital, Bellevue, 47; Penitentiary Hospital at Blackwell's Island, 34; Small-Pox Hospital at Blackwell's Island, 10; City Hospital in Broadway, 121; City Prison, 3; in Westchester County, 63; Long Island, 31; New Jersey, 33.

We shall avail of the 'Remarks' of Mr. Dunnel which are a good running commentary on the tabular Report:

"By this report it will be seen that the deaths in 1838 were 679 less than in 1837. Precisely the increase of births in 1837 over those in 1836.

"It may be well, for the gratification of those who have not the time or taste to enter into the investigation, to subjoin a running commentary upon some of the details herein presented.

"There are several interesting results to be gleaned from the precise and peculiar mode of arranging these tables, and which could not be shown by any other method.

"Leaving others to account for the causes, while the facts are simply placed before them, I will premise that, while the total of deaths has been 679 less, the variation in prevalency of different diseases has been immense; from a decreased mortality of 1654 upon some, to an increase of others of 1209.

"The decrease has been chiefly upon the following diseases, viz: of Scarle[t]

Fever, 322; Typhus, 234; Consumption, 233; Convulsions, 178; Measles, 159; Small-Pox, 79; Fever, 74; Teething, 96; Inflammation of the Chest, 40; Diarrhœa, 30; Drunkenness and Delirium Tremens, 31; Child bed, and Puerperal Fever, 24; Dropsy, 19; Bleeding, 12; Mortification, 10; Old Age, 8; and Epilepsy, 5; and 28 less were drowned.

"Of the Diseases that have increased, the following stand most conspicuous: of Cholera Infantum, 184. More deaths of this disease occurred this year than ever before, with the single exception of the cholera year, 1834, when it was only 38 greater. In the year 1832, it was 103 less than in this. The increase of Marasmus is 178; Hooping cough, 156; Unknown, 102; Apoplexy, 53; Croup, 31; Remittent Fever, 28; drinking cold water, 20; Mal-formation, 31; Organic disease of Heart, 18; Bleeding from Lungs, 13; Dropsy of Chest, 13; Scrofula, 12; while of casualties, 12 more occurred, and 8 more were killed or murdered.

The increase of Apoplexy, Unknown and drinking cold water, occurred chiefly during the extremely warm part of last summer.

"The number of Still-born and Premature is precisely the same as last year. There is a curious circumstance connected with this casualty that deserves a remark; that is, the great disproportion of white males to white females, and which does not take place between the sexes of the blacks.

"The greater fatality of male life in the white race commences before birth, and continues throughout the first year of existence. This year almost 51 out of every 100 died before reaching 5 years of existence, of whom over 25 were white males, and 22 females,—the rest blacks. This inequality does not continue so great after passing the year; there being but trifling variation, (although the males exceed,) between 1 and 2—2 and 5—5 and 10, until between 10 and 20, females predominate; between 20 and 30 they are nearly the same; but, between 30 and 50, even to 60, the males are almost double in number to females. Between 60 and 70, they vary a trifle; between 70 and 80, the females outnumber the males, but from 80 upwards, they are equal.

"Throughout the whole series there is a total excess of male deaths, of nearly 10 per cent., and this cannot arise from exposure or casualty alone. There is not a disease of child, except Whooping Cough and Measles, in which the male deaths do not preponderate. The same thing occurs, with few exceptions, at the other periods of life, excluding the peculiar diseases of females, and old age. Of casualties of all kinds, the males exceed females only 148.

"According to the last census, the female population was not 5 per cent. greater than the male. This constant loss of male population (which, taking the whole series embraced in my last year's report, of 32 years past, has beeu still greater, having been nearly 12 per cent.,) is in some way or another supplied, or, inevitably, the male race would eventually become extinct. It is for the purpose of ascertaining the facts, that a register of births is desirable.

"It is singular, in regard to the deaths of the coloured population, that the males and females differ so little; the coloured females exceed the males only one.

"Of those diseases so fatal under the year some of them are fatal within a few days of birth. Of Convulsions 638 died—501 of them under the year; but 159 of them were not 7 days old; between that and 21 days, 177 died; between that and 2 months, 79; and 28 between that and 3 months, leaving but 118 to divide between the remaining three-fourths of the year. Of Malformation and Premature, 77 died under 20 days.

"I have placed in the tables, on a line with the sex and age, the nativity of the persons; in order, if possible, to show the effect, if any, this may have upon disease. By a careful examination of which it will be seen, that of Apoplexy 49 were natives, and 104 Europeans; of Palsy, Epilepsy and Insanity, one half of the males were Europeans, and of Bleeding from the Lungs, they exceed the natives. Of Consumption, 1225, there were natives 665, and Europeans 539—11 of adjoining countries, and 10 unknown. The deaths by this disease, excluding casualties of all kinds, is 1 out of 5 of the whole; of which 1 out of 9293 are white natives, 1 out of 4566 blacks, and 1 out of 2877 Europeans. Of

Inflammation of the Stomach 28 were natives, and 36 Europeans. Organic disease of the Heart, 27 natives and 28 Europeans. Of Child-bed and Puerperal Fever, 16 natives to 21 Europeans. Of Intemperance and Delirium Tremens, 40 natives to 55. Suicides, 23 natives to 19. 41 natives and 44 Europeans died of casualties. Out of 22 deaths from drinking cold water, 19 were Europeans; and of Old Age, 57 natives, 54 Europeans, and 3 from the adjoining British provinces.

"I have divided Europe into different sections, in the tables, because of the greater number from some sections; they are all included in these calculations.

"It would tend very materially to an insight into these matters, if the census gave any clue to the proportion of native population of this City; but as it does not, much must be left to conjecture.

"I have made no estimate of the deaths proportioned to the population; because it will necessarily be very unsatisfactory until an accurate register is kept, based upon the deaths, and not upon the interments only, in this city."

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Statement of Deaths,—with the Diseases and Ages, in the City and Liberties of Philadelphia, during the year 1838.

This document is less detailed and less satisfactory than that of New York just noticed. The alphabetical arrangement of the diseases is pursued with here and there the cause substituted for the disease, such as Excessive Heat, Intemperance, Neglect. From such heads as Disease of the Breast, and Disease of the Chest little information can be obtained. We are aware that these inaccuracies and loose terminology are made by the physicians who attended the patients, and who, after death, send in certificates. But something might be done by the medical portion of the Board of Health towards the correction, if not removal of these inaccuracies, by asking the physician for a more definite name of the fatal malady.

The Statement is so far on the side of amalgamation, that it does not designate the proportion of deaths among the blacks to those among the whites; nor even indicate that there are two such different races inhabiting Philadelphia.

The Births and Deaths, in each month of the year 1838, are set forth in the following table:

MONTHS.	BIRTHS.			DEATHS.		
	Males.	Females.	Total.	Males.	Females.	Total.
January - - -	330	320	650	254	220	474
February - -	316	335	651	210	198	408
March - - -	364	337	701	200	217	417
April - - - -	302	318	620	213	176	389
May - - - -	335	321	656	206	184	390
June - - - -	327	301	628	248	189	437
July - - - -	378	312	690	394	286	680
August - - -	343	278	621	430	360	790
September - -	369	340	709	245	201	446
October - - -	330	314	644	236	184	420
November - -	285	297	582	161	135	296
December - -	303	325	628	172	143	315
	3982	3798	7780	2969	2493	5462

The period of the greatest mortality was during the months of July and August, and the least in November. The deaths, within the first year of

existence, were 1728; and within the first two years, 2363. The Diseases which figure highest in the Report, are, 1st, Consumption of the Lungs, 725; 2d, Summer Complaint, 382; 3d, Convulsions, 302, of which 195 were in children under one year old, 39 in those within the second year, and 33 between the second and fifth years; 4th, Inflammation of the Lungs, 230.

In New York the cases of Cholera Infantum are 437, and those of diarrhœa in children under two years of age, 71. In Philadelphia there were 97 deaths of children under two years of age from diarrrhœa. The deaths from Consumption, in New York, were 1225; from Inflammation of the Lungs, 542; from Hooping Cough, 219; and from Croup, 182. In Philadelphia the deaths from Hooping Cough were 27, and from Croup, 101. *Bronchitis*, the deaths from which in our city were 118, does not find a place in the New York Report. This omission must be regarded as a defect in the latter.

Thoughts on the True Connexion of Phrenology and Religion, in a Letter to the Editor of the American Phrenological Journal and Miscellany, in Philadelphia. By Charles Caldwell, M. D. Louisville. 1839. Pp. 24. 8vo.

The present pamphlet is at once a vindication of Doctor Caldwell's views as a phrenologist, and a correction of mistakes which he believes the editor of the Phrenological Journal to have committed. Room is not allowed us to enter into all the details of the argument, and we must content ourselves with a brief statement of the more prominent points advanced by the author. He objected, in conversation with its editor, to a portion of the Prospectus of the Phrenological Journal in which it is said, that "the religious character of the work will be *decidedly evangelical;*" and intimated that, with his belief of such an allegation being "intellectually unnecessary and morally unsound," he must not be expected to be friendly to the Journal, unless some alterations in the matter were made, or a satisfactory explanation given. So far, however, from any change being made in the preliminary announcement, Doctor Caldwell found himself, personally as he believes, though not by name alluded to "as being unfriendly to the Journal, and even threatening war against it, on account of the religious character it was to wear."

That all mistakes on this subject might in future be avoided, Dr. Caldwell furnished, during a visit to Philadelphia, a note containing his views explicitly stated respecting the connexion between phrenology and religion, and requested its publication, This was complied with; but the paper was accompanied by notes and remarks which to the author seemed to be as groundless in themselves as they were unfavourable to him.

This much having been offered in a prefatory note, Doctor Caldwell introduces the letter entitled Thoughts, &c., being 'a plain reply' to what he conceives to have been the indiscreet remarks from the pen of the editor of the Phrenological Journal. But there is a concluding paragraph of the note which we must not withhold from our readers. It is important to the author, and important for all to know it, in order that the injustice may not be repeated to which he alludes—

"In conclusion; I say, 'for once, for all, and ever,' that the whole host of self-righteous whisperers and clamorers, whatever be their denomination or standing, who, for years and lustrums, have charged me with unfriendliness to the Chris-

tian religion, have violated truth. To sustain, by a title of evidence their thousand forms of accusation to that effect, they are set at defiance. And when they shall have tortured their accusation into a thousand forms more, with as many new devices to each of them, the issue will be the same."

As respects the harmony between the Phrenology and Natural and Revealed Religion, Dr. Caldwell very justly says:

"Dr. Spurzheim and Mr. Combe have shown that Phrenology harmonizes with the whole of Natural religion, with all the moral doctrines and precepts of Revealed religion, and with so much of the theological tenets and practical instructions of the latter as includes a belief in the being and attributes of a God, (at least of a Great First Cause, invisible to the eye, but proclaimed by his works) and in some form of worship in acknowledgment of those attributes, the blessings they dispense, the veneration they inspire, and the awe with which they impress contemplative observers. Those writers farther show that Phrenology is in harmony with religion, in a special manner, in inculcating the duty which we owe to ourselves, to society, and to a still Higher Power, of so cultivating and disciplining our minds, as to give to our superior faculties the control of the inferior ones—to our moral and intellectual nature the supremacy over our animal. The difficulty which the higher faculties sometimes experience in acquiring the mastery over the lower ones, those writers represent as analogous to the war between the flesh and the spirit spoken of in Scripture, in which they tell us Phrenology teaches that the latter should gain the ascendancy. And I have done the same—with what comparative effect, let others decide. In my phrenological writings, and in all the course of lectures I have delivered on the subject (and they have not been few) I have referred to the same doctrines and duties, in terms of commendation, illustration, and defence, and thus maintained that there exists between Phrenology and religion the relation not merely of compatibility, but of harmony and friendliness. I have frequently delivered whole lectures exclusively on these topics. I have never failed to inculcate on my classes the practicability and duty of looking, not merely 'through nature' at large, but through that of man in particular, 'up to nature's God.' And, if you take the trouble of appealing to them, they will with one accord tell you so. Indeed, in this part of my teaching and writing, for the last eighteen years, that has been one of my leading objects."

To the following opinions few who have thought maturely on the subject can refuse their assent. The passages here quoted are directly continuous with those just given:

"But I deny that there exists between Phrenology and the supernatural or marvellous portion of Revealed religion the shadow of relation, direct and indirect, by inference or otherwise." * * * * *

"In Phrenology then there is no evangelism. Nor, as far as I am informed, was the position ever broached or dreamt of until it appeared in your Prospectus. To compensate therefore for its want of correctness, your notion might seem to possess originality. Of the value of that quality in the present case (how creditable soever it may be in others) I offer no opinion. To call any phrenological doctrine 'evangelical' is a rank misnomer (not to pronounce it a *desecration* of the term); and, as far as its influence extends, it imposes on the credulity of the uninformed, and seduces them into error. For such an expedient therefore to promote the cause of truth and science is impossible. On the contrary, it must necessarily prove adverse to them. Besides the error which it actually inculcates, it must give to inquiry a wrong direction, and thus induce the unreflecting multitude to look for phrenological facts and doctrines where they are not to be found. For they are to be found only in the developments and functions of the nervous system, the mental phenomena which that system is instrumental in producing, and in the writings of phrenologists."

Doctor Caldwell controverts, successfully, as it seems to us, a position impliedly taken by the Phrenological Journal; that the foundation of the science of

Phrenology is in the New Testament. All such positions as this or the other one, that the Journal will be decidedly evangelical, are not only inherently wrong but mischievous in all their bearings. One may just as well talk of evangelical physiology, or evangelical geology, as of evangelical phrenology. Science may serve to illustrate the doctrines of revelation, and furnish useful and pleasing analogies for the preacher; but it will not give nor of itself support religion nor religious feeling. Neither, on the other hand, can the precepts or the language of revelation, or of scriptural prophecy, be brought in support of, or as adverse to science. The attempt to blend the two subjects and questions is an impertinence which merits rebuke, whether it came from the Hall of Science or the Pulpit. It will seldom be made in either case by a phrenologist.

We feel ourselves less called upon to introduce here one or two other points discussed by Doctor Caldwell, such as the extent to which Phrenology is now generally accredited in this country, the small number of persons who for years were its only defenders and expounders, and the degree of relative support given to the science by Philadelphia on the one hand, and by the West, or, we should rather say, Lexington on the other hand,

The reception given to Mr. Combe, as evinced in the two successive courses which he has delivered, in Philadelphia, to large classes, is very good evidence that there was a zeal for, and a certain amount of knowledge of phrenology among a goodly number of her citizens; although no very public, certainly no loud or long declaration of such a state of feeling had been made anterior to the arrival of this distinguished lecturer. It would have been impossible for him to make the master of 530 persons of the most intelligent portion of the community, one night with another, during his first course, and of 350, during his second, without a state of preparation by some elementary knowledge of, and regard for the subject. No feeling of curiosity, no abstract love of philosophy, assuredly no fondness for sitting two hours and a half in a most uncomfortable room, (as was the case during the first course) would have impelled this number of persons to become regular attendants on lectures on phrenology, unless adequate predisposition had been induced in the manner just stated.

An Inquiry into the Influence of Physical Causes upon the Moral Faculty. Delivered before a meeting of the American Philosophical Society, held at Philadelphia, on the Twenty-seventh of February, 1786. By BENJAMIN RUSH, M.D. Philadelphia. Haswell, Barrington, and Haswell. Pp. 28. 8vo.

We are indebted to Mr. Combe for the republication of this interesting Discourse. In a short introductory notice this gentleman makes the following among other remarks:

"In this Inquiry 'coming discoveries' may be said to have cast their shadows before, and Dr. Rush, by observing and faithfully recording the phenomena of nature, has brought to light several important truths which have since been confirmed and elucidated by Phrenology, in a manner that evinces, on his part, extraordinary depth and perspicuity of intellect, combined with the highest moral qualities. The 'Moral Faculty' mentioned in his 'Inquiry' appears to me to comprehend nearly the three moral Sentiments of Benevolence, Veneration, and Conscientiousness, treated of by Phrenologists, each of which is manifested by means of a particular organ, and is influenced by its condition of health or dis-

ease; and if the following pages be perused with this explanation in view, the close approximation of Dr. Rush's remarks to the doctrines of Phrenology will be easily recognised. In many details he differs from, and falls short of the views of Phrenologists, but in the general conclusion maintained by him, that physical causes influence the moral faculty, the coincidence is complete."

Doctor Rush points out, 1st, the connection between the degrees of consistency and firmness of the brain in infancy and childhood, and between the strength as well as progress, of the moral faculty in children; 2d, between a certain size of the brain and a peculiar cast of features and certain moral qualities; 3d, inherited moral as well as intellectual faculties; 4th, unnatural defect of moral qualities from an original defect in the stamina of the brain, or from the influence of physical causes, &c., &c.

In treating of the effects of physical causes upon the moral faculty, Dr. Rush enumerates the influences of *climate*, *diet*, *certain drinks*, *extreme hunger*, *diseases*, *idleness*, *labour*, *excessive sleep*, *bodily pain*, *cleanliness*, *solitude*, *silence*, *music*, *eloquence of the pulpit*, *odours*, *light and darkness*, *different airs*, *medicines*; and makes a number of ingenious remarks under each.

Towards the conclusion of his 'Inquiry' Dr. Rush asks: "If physical causes influence morals in the manner we have described, may they not, also, influence religious principles and opinions? I answer in the affirmative; and I have authority, from the records of physic, as well as from my own observations, to declare, that religious melancholy and madness, in all the variety of species, yield with more facility to medicine, than simply to polemical discourses or to casuistical advice."

We are strongly tempted to increase our quotations from this interesting Discourse, but refrain, under a belief that the present edition will be rapidly and generally disseminated. May we not add, in the name of the profession at large, an expression of our hope, that a new edition of all the works of this eminent man will be issued, under the supervision of those whom we have among us so well qualified for the task. Inclination not less than filial duty would, we may presume, determine them to its performance.

UNIVERSITY OF THE CITY OF NEW YORK.

We had intended to notice, before now, the resignation of the professors of the Medical Department of the New York University; but the official document, in which the fact and the reasons for it were promulgated, was mislaid. It is now placed before our readers who will marvel not a little that a grave and learned body, the Council of the University of the City of New York, animated, we ought to suppose, by a love of science and letters, and desirous of promoting their cultivation, should act the part of traders, and drive a bargain with the new medical professors with all the pertenacity and eagerness for the highest per centage which would distinguish a Wall-street broker of the second class. Teachers of all kinds, secular as well as clerical, ought to be freed from the cares and responsibilities of trade if they are to discharge their high functions in a manner honorable to themselves, and useful to the community at large. It is quite enough for them to incur the anxieties growing out of the support of their private establishments and the expenses of their domestic arrangements, without being worried by the thoughts of how they shall meet the rent and incidental expenses

of College Halls and University Buildings. The whole energies of a man's mind must be allowed to bear on his vocation of it is to be discharged in a worthy and efficient manner.

To the Council of the University of the City of New York.

The undersigned, Professors of the Medical School of the University of the City of New York, deeply lament the necessity of appearing before the Hon. Council in any attitude that may not imply a cheerful acquiescence in their wishes or dispensations.

But the undersigned, having accepted their respective trusts with the full expectation, that they would be placed upon a ground corresponding with that which universally exists in similar institutions, have been disappointed at the long delay of the Hon. Council in adopting the plan of organization in which the undersigned had unanimously concurred, or some other modification which might appear more judicious to the Hon. Council.

The undersigned having, also, in consideration of the pecuniary embarrassments of the University, made an early overture of two thousand dollars per annum to the Hon. Council, as an equivalent for the use of apartments to be put in proper order at the expense of the University, and having, also, understood through their medium of communication, the Hon. Chancellor, that the proposal was agreeable to the Council, though not officially accepted, were not a little disappointed by a proposition from a committee of the Council, that the undersigned should make a loan to the institution of twenty-five thousand dollars, the interest of which should be applied as rent for the apartments that were to be appropriated to their use. Nor were they more reconciled to this overture by the accompanying proposal, that if acceded to, the Hon. Council would *then adopt a plan of organization for the faculty, and permit such of the undersigned as were then elected to nominate candidates to the vacant chairs.*

It appears, also, that *soon after* the foregoing interview between a committee of the Hon. Council and the professors, the Council adopted a resolution to the effect that the medical lectures *should be* delivered in the edifice of the University, to which the faculty had made no objection, but, on the contrary, had expressed their desire that the Council would grant the dispensation.

The undersigned were *next* informed by the Chancellor that the Council had determined that the expense of altering the apartments, which had been estimated at two thousand dollars, should be *defrayed by the faculty*, and that all improvements, additions, &c., not exceeding that amount, should become the property of the University. The undersigned, anxious to perform every just and honourable act on their part, deputed a committee of five to confer with the building committee of the honourable Council in relation to the contemplated repairs and rent. The committee of the undersigned were authorised to stipulate on behalf of the faculty, that they would comply with the requisition of the Hon. Council as to the alterations; and that they would pay them a rent equal to their present value for the period of four years, and that all additions not exceeding two thousand dollars should become the property of the University at the expiration of that time.

The committees met on the evening of the 29th of December, when the committee of the Hon. Council stated that your Hon. body had expected to derive pecuniary emolument from the Medical Faculty, in consideration of the benefits which were to accrue to the Faculty from their association with the University; and that the Hon. Council had expected, that after their election of a few of the Professors, the latter would have been willing to aid the institution with funds. To which the Committee on behalf of the undersigned replied, that they would relinquish to the Council all their professorial fees during the first four years, if the Council would supply them with apartments, and grant them a salary of one thousand dollars per annum for each of the graduate professors, and to the extraordinary-graduate, a sum that should correspond, in a like ratio, with their respective receipts from the students. This proposal was rejected, without hesitation, by your committee.

But the undersigned, having at heart the pecuniary exigencies of the University, proceeded to lay before your committee, the specific proposal with which the committee of the undersigned had been charged. They explained, as had been done before, to your committee, the doubtful nature of the experiment which they were about making,—since it was regarded in this light by their fellow-citizens, to whose judgment they are ever disposed to pay a respectful deference.

They farther explained, that the labours of medical professors are excessively arduous, when associated with that practical attention to medicine which is indispensable to their success as teachers, and that this is so fully and so generously appreciated by the public, who have a common and deep-felt interest in the culture of medical science, that legislatures and individuals have been long in the practice of contributing pecuniary aid in a most liberal and honorable manner to the promotion of medical schools, and to enable their teachers to enjoy the benefit of their hard-earned fees.

Your committee, however, were confident that your honorable body would not accept the terms proposed by the undersigned. But to effect an arrangement, your committee charged the committee of the undersigned with the following proposal, which your committee thought would be acceptable to your honorable body; viz. that the faculty of medicine should defray the expenses necessary to complete the alteration of the rooms,—and pay a rent of fifteen hundred dollars per annum for four years, and at the expiration of that time, the alterations, additions, &c., not exceeding the amount of two thousand dollars, should become the property of the University.

At a full meeting of the undersigned, on the evening of the 9th inst., the proposal of your committee was unanimously adopted, accompanied by an expression of hope that your honorable body would adopt for the faculty a plan of organization, now long in suspension.

At a meeting of your Hon. body on the 10th inst., the foregoing arrangement was submitted by your committee; and on the evening of the same day the faculty were informed, for the first time, by one of your committee, that, at some antecedent meeting of your honorable board, a resolution had been adopted to the following effect:

"Resolved, That the rent to be received for rooms which the medical Faculty require, shall be at the rate of one thousand five hundred dollars, for the first year, commencing on the 1st of May next. Two thousand dollars for the second year, provided the number of students be not more than one hundred and fifty, and if over that number, twelve dollars additional for every scholar up to two hundred; (making the sum of $2600 for 200 students.) When the number of students shall be 250 or more, but not 300, the rent to be received shall be three thousand five hundred dollars; and when the number shall be 300 or more, four thousand dollars per annum. All alterations to be made at the expense of the medical Faculty, and to be the property of the University. The disposition of the matriculation and graduation fees to be settled by the Committee of the Medical Faculty;" (the committee being a part of your honorable body.)*

It was also understood by the undersigned, that your honorable body were not disposed to recede from the foregoing resolution, and that they were not inclined to take any steps, at present, for the organization of the school, notwithstanding its importance has been long urged upon the attention of your honorable body.

But had your honorable body receded from their resolution respecting an advance upon the rent to a possible extent of two thousand five hundred dollars beyond its admitted value, the undersigned would still have regarded the resolution as incompatible with previous understandings, and as an infringement upon their rights. They cannot but respectfully consider the resolution, especially

* It was subsequently determined by the Council as stated to the Faculty by the Chancellor, that the graduation fees should be diverted from their intended application towards the rent, for founding a museum and anatomical cabinet to become the property of the University.

in connection with the foregoing occurrences, as injurious to the dignity of the profession whose interests the undersigned, in part, represent.

The undersigned, therefore, respectfully, but absolutely, resign into their hands of your honorable body, their respective trusts.

New York, January 11, 1839.

(Signed.)

MARTYN PAINE, M.D., Professor of the Theory and Practice of Medicine.
CHARLES A. LEE, M.D., Professor of Materia Medica, Pharmacy, and Medical Jurisprudence.
GUNNING S. BEDFORD, M.D., Professor of Obstetrics, and Diseases of Women and Children.
ALFRED C. POST, M.D., Adjunct Professor of Anatomy.
A. SIDNEY DOANE, M.D., Professor of Physiology.
J. C. BEALES, M.D., Professor of Operative Surgery and Surgical Anatomy.
CALEB TICKNOR, M.D., Professor of Hygiene
JOHN WATSON, M.D., Professor of Clinical Surgery.
J. AUGUS M'VICKAR, Professor of Clinical Midwifery.
JAS. A. WASHINGTON, M.D, Professor of Clinical Medicine.

Introductory Lecture. Delivered by H. WILLIS BAXLEY, M.D., Professor of Anatomy and Physiology in the University of Maryland, November, 1837. Baltimore. Pp. 29. 8vo.

THIS Lecture is printed at the request of Doctor Baxley's colleagues, Drs. Howard, Finley, Dorsey, Fisher, and May. It consists of a passing eulogy on the late Dr. Godman, with a prefatory notice of the merits of Bichat, by whose labours and discoveries medicine "assumed the rank of a *science of fixed principles*, capable of explaining the phenomena of diseased action, and unfolding correct laws of therapeutic indication." After General Anatomy, Pathological is noticed by the lecturer; and complimentary reference is made to Andral, Laennec, Louis, Reynaud, Broussais, Bouillaud, Bright, Cruveilhier, and Carswell.

We could wish that a somewhat more specific mention had been made, by Dr. Baxley, of the labours and services of Dr. Godman, in place of what must strike the reader as rhapsodical regret at the alleged early injustice done to him in Baltimore, mixed up with general praises of his unde standing and disposition. It is impossible for a stranger to the merits of the deceased to learn what were his real and distinctive claims to the approbation of his contemporaries, and the respect of a succeeding age. A successful and brilliant lecturer on Anatomy, a zealous student and pleasing writer of Natural History, Dr. Godman won fame in these departments of science without much learning in either. His Rambles of a Naturalist have been pronounced by a savage and eccentric, but a strong minded and travelled Englishman, to be in beauty of style and description equal to Goldsmith, and superior to nearly all the essays which have appeared since the time of this latter genius. The occasional contributions of Dr. Godman to the Quarterly Reviews were remarkable for their fulness and richness of thought and description. But, in part from the misfortune of his situation, and partly owing to his thirst for distinction, he engaged in the discussions, and attempted the elucidation of matters, both professional and literary, for which he was not fully qualified by requisite study and observation. Hence his claim to the discovery of membranous tissues and arrangement which had been noticed with sufficient clearness by Bichat; and hence, also, controversy on subjects in Natural History, and mistakes in the treating of the Fine Arts. Doctor Godman attempted the practice of surgery, but failed. To that of Medicine he gave little of his time and attention, and herein was the grand fault of his life; we speak now in reference to his fortunes and social influence. With his frankness tempered by good nature, his natural and easy address, and ready elocution, he could soon

have produced a favourable impression on superficial observers, which his more substantial worth and ardour in the pursuit of knowledge would have rendered abiding on profounder judges. Had his favorite studies been made episodical in the practice of medicine, he might have been spared to a good old age, and have acquired worldly fortune and consideration.

His health then would not have suffered by confinement during the day to a chilly and damp dissecting-room, nor till a late hour in the night, in his studies, and preparation for his various works and essays; and he might after all have prosecuted with equal success his inquiries into comparative anatomy and natural history.

We would here inculcate a lesson, that if a poor young man, confident in his talents and industry, hope to gain station and wealth by science and letters, he must devote himself zealously, and for a time exclusively to the study of, and preparation for the practice of a profession. On this he may afterwards gracefully and pleasantly hang various appendages; but the profession and its practice must ever be the principal occupation, the business of his life. Itself converted into an appendage merely on science or literature, its dignity and value to the individual and its weight in society are lost.

Doctor Bell's Lessons on the Human Frame. Designed for the Use of Schools and Families. Embellished with upwards of Fifty Engravings. Philadelphia: Henry Perkins. Boston: Perkins and Marvin. 1839. Pp. 158. 18mo.

We only notice this work in order to protest, in the name of the brotherhood of authors, against the imposition which it fosters. All who read its title page, or who see it announced in the papers of the day, will suppose it to be the production of an author of the name of Bell; and, in the next place, that it is written by some one Doctor Bell or other, with whose writings and literary labours they may have become already acquainted. What will be their surprise, then, when we inform them, that not only is this little book not written by their Doctor Bell, of Boston, or of Philadelphia, or of Louisville, or by a Doctor Bell on the other side of the Atlantic; but that it is not written by any person whose name is Bell.

What object did the publisher propose to himself by making such a title page? Will he allege that Bell is a professional name, and that, therefore, he was free to the use of it for his own purposes? The excuse would be unsound, since, if we admit that there are many writers of the name, this fact would be argument against an increase of the risk of mistakes and confusion by the arbitrary and fanciful adoption of it. What, we ask again, was the object of the publisher in this fictitious title page? Did he suppose or wish, that his work would be attributed to the pen of a gentleman whose name is already extensively, we will not inquire how far advantageously, known in connection with works on popular hygiene and physiology? We can partly answer this question, by saying, that, on the appearance of the *Lessons on the Human Frame*, the Editor of this Journal, who, as it is well known, is also the author of the works on 'Health and Beauty,' and 'on Baths and Mineral Waters,' &c., was asked by nearly all his friends and acquaintances into whose company he fell—whether he had not just written a new book? His early disavowal, through the newspapers of this city, has saved him from a continuance of this question. He repeats the disavowal here, by saying, that Doctor John Bell of Philadelphia, editor, author, and lecturer, is not directly or indirectly the writer or compiler of the work, entitled Dr. Bell's Lessons on the Human Frame, with its worn out wood cuts, its cant about religion in the body of the work, and its contemptible deception in the title page; as if to show how wide the difference between practice and preaching, between example and profession.

ERRATUM.

Page 212, line 29 from bottom, for "successfully" read successively.

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ON THE CHEMISTRY OF THE BLOOD IN HEALTH AND DISEASE.*

There are few subjects which have more deservedly engaged the attention of modern chemists than the analysis of the blood in health and disease. If the results hitherto obtained, are of too vague a nature to allow them to be applied to the improvement of the practice of medicine in the way anticipated by the experimenters, this is rather to be ascribed to the extreme difficulties which beset the investigation than to any want of zeal or skilfulness on their parts. Ample materials are before us; but these materials require a master-hand to mould them into a proper form. The differences in the results of different chemists must be reconciled; in making extensive and important generalizations, we must not be content to proceed with mere average ratios; and, above all things, the characters of blood in its most normal or healthy condition must be indisputably settled. M. Le Canu, the author of the thesis placed at the head of this article, whose name is already well known to the chemists and physiologists of this country, appears to be fully aware of the difficulties which remain to be overcome. To make our knowledge practically available, we must determine, in the healthy adult, the number, nature, and proportion of the constituent principles of the blood which enters into, as well as of that which passes out of the lungs. The liquid transmitted through the jugular, femoral, and subclavian veins, in other words, that which comes from the head and extremities, should be attentively compared with the contents of the vena portæ, the hepatic veins, and of the left subclavian vein, after it has received the chyle from the thoracic duct. The arterial must be compared with the venous blood in individuals of the two sexes, of different ages and temperaments. A similar series of experiments should likewise be instituted on the blood of persons labouring under different forms of disease. It is easy to understand that all the conditions here mentioned may give rise to important modifications in the composition of this fluid.

M. Le Canu has endeavoured in his thesis to give us a true picture of the present state of our chemical knowledge on this subject. Before we express an opinion of the manner in which he has executed this laborious task, we consider it necessary to lay before our readers a general outline of his researches; premising that, in doing so, we are furnishing them not only with the most recent, but with the most trustworthy account of the properties of the blood.

The thesis is divided into four parts: in the first part, we have an examination of the nature and mode of distribution of the immediate principles of healthy venous blood; in the second, the determination of the proportion of these principles, under the different conditions of age, sex, temperament, and kind of food; in the third, the arterial is compared with the venous blood; the properties of this liquid as it is found in the capillary system, vena portæ, and placenta, are then examined. Finally, in the fourth, we have a summary of the pathological

* 1. Etudes Chimiques sur le Sang Humain. Par Louis-Rene Le Canu, de Paris, D.M. —Paris, 1837.

Chemical Researches on the Human Blood. By L. R. Le Canu, D.M.—Paris, 1837. 4to. pp. 128.

2. Nouvelles Experiences sur le Sang. Par M. P. Denis, de Commercy. (Archives Generales de Medecine, Fevrier, 1838.)

New Experiments on the Blood. By M. P. Denis, of Commercy. (Arch. Gen. de Medecine, for February, 1838.)

changes which it undergoes in certain states of disease, more especially in icterus, cholera, chlorosis, and affections of the heart.

Chemists have generally selected blood for analysis from the veins at the bend of the arm; since, as the arterial blood of the hand traverses no secreting organ before arriving at this part, it may be taken as the type of venous blood in its greatest possible state of simplicity. No less than *forty-five* different constituent parts are enumerated as entering into the composition of this liquid; and, to facilitate the labours of those who are disposed to follow out its minute history, copious references are given opposite to each constituent. But, as the author wisely observes, the existence of this large number of bodies in venous blood is far from being satisfactorily established. The only chemist of repute who has met with manganese is M. Denis, to whose experiments we shall presently have occasion to refer; but he himself admits, what all will easily believe, that this metal may have been accidentally introduced during the analysis. M. Le Canu places more confidence on the discovery of copper by M. Sarzeau, (*Journal de Pharmacie*, t. xvi., p. 505;) but, at the same time, he does not seem disposed to admit it as a regular constituent. Notwithstanding the acknowledged ability of M. Sarzeau as an analyst, since no other chemist has found copper in the blood, we are justified in thinking that he may have been deceived: for the discovery of copper even in the small proportion of $\frac{1}{10000}$th part of an *organic* liquid containing it, is not attended with any great difficulty. This experimentalist stated that he found copper in a great number of organic substances, as in the varieties of corn and grain, in flour, bread, cheese, meat, and most kinds of food, a statement, which has been more industriously circulated than closely examined. Our own experiments, both with regard to the blood and some of the other substances mentioned, lead us to declare, either that some unperceived error in spite of the greatest precautions must have crept into them, or that the blood and the other bodies mentioned, do not contain copper. The hydrosulphuret of ammonia, the acetate and benzoate of soda, discovered by Prevost, are properly considered to have resulted from the decomposition of the liquid under analysis, and have no claim, therefore, to be regarded as independent constituents. The hematic acid, which, according to Treviranus, is combined with iron, has been proved by Engelhart to be the hydro-sulphocyanic acid; and that this was plainly a result of decomposition, is proved by the fact that it was only discoverable after the carbon of blood had been heated to redness with soda. The osmazome of Denis, the *extractive* matters of Berzelius, and the muco-extractive matter of Marcet, are undefined and complex products: besides, these different names appear to be applied to substances essentially the same. The older chemists thought that gelatin was a constituent of the blood; but the researches of Berzelius, Brande, Bostock, and Marcet, have proved that this is an error.

"The combination of albumen and soda, usually known under the name of serosity, was formerly mistaken for gelatin: but there is this difference between them. A solution of gelatin, exposed to a voltaic current, undergoes no change; while the gelatinous-looking serosity is instantly separated into albumen and soda. Besides it is now generally acknowledged that gelatin is not a distinct animal principle; but a mere product of the reaction of boiling water on skin, cartilage, and other substances." (*Le Canu*, p. 14.)

Some dispute has existed as to the presence of urea in the blood. The real state of the question seems to be this. MM. Dumas and Prevost, in the first instance, demonstrated that urea existed in the blood of those animals whose kidneys had been extirpated; but neither they, nor Tiedemann and Gmelin subsequently, could detect the smallest trace of urea in the blood of animals placed under ordinary circumstances; although, according to the latter chemists, urea may be detected in the proportion of $\frac{1}{250}$th even in operating on a very small quantity of blood. M. Le Canu observes:

"I have not succeeded in discovering urea in one thousand grains of human serum; but I have observed that an aqueous solution of an alcoholic extract of this serum, first dried in a vapour-bath, and then digested in ether, gave out during the evaporation a strong urinous odour; still the solution evaporated to

the consistency of a syrup, cooled and mixed with an equal bulk of strong nitric acid, did not furnish a trace of the nitrate of urea." (p. 15.)

This we think is conclusive of the absence of urea from *healthy* blood: for it is impossible to rely upon an odour resembling that of urine as evidence of the presence of urea. This principle is well known to be inodorous.

Passing over a few other unimportant substances, the existence of which as constituents is doubtful, M. Le Canu arrives at the conclusion that there are at least twenty-six bodies present in the blood. These are:

"Oxygen, nitrogen, carbonic acid, iron, the muriates of soda, potash and ammonia, the sulphate of potash, the *sub*-carbonates of soda, lime and magnesia, the phosphates of soda, lime, and magnesia, the lactate of soda, fixed fatty acids combined with soda, a salt formed by a volatile fatty acid, fatty phosphorescent matter resembling the cerebral substance (cerebrine), cholesterine, seraline, fibrin, albumen, yellow, and red colouring matters, extractive matters, water." (p. 16.)

Under the very indefinite term of "*extractive* matters," are comprised: the osmazome and cruorine of M. Denis, the extractive matter of Berzelius and Marcet, the serosity or compound of albumen and soda of Brande and Le Canu. It is very properly remarked, that until the true nature of these substances has been determined, no mischief, but much good will arise, from considering and classifying these nominally different substances under one head.

Probably the long list of substances above given might be advantageously reduced. Thus, with regard to the salts, we doubt whether any with an ammoniacal base can be truly said to be a constituent of healthy blood. Is it not much more probable that this alkali should have resulted either from spontaneous decomposition before analysis, or have been actually produced in the processes required to determine its presence? Again, how can it be said that the sub-carbonates (carbonates) of lime and magnesia, exist free in the blood? If we admit that the serum owes its alkalinity to the presence of carbonate of soda, we cannot extend this admission to the insoluble carbonates of lime and magnesia; and we think it a point far from being satisfactorily settled, as to how far the different salts of the blood have really an independent existence in it. Where, as in general, the process by incineration is followed for their detection, the fact that sulphur, phosphorus, and carbon exist in the organic principles of this liquid, must tend to render it probable that the acids of these salts may be, if not entirely, at least in part, accidentally produced.

Our author does not propose to examine the chemical properties of the different bodies which he enumerates as constituents: for an account of these, he refers to the different and well known writings of other chemists. Nevertheless, the state of the iron in blood, and the singular but little understood connexion existing between it and the red colouring matter are points which are sufficiently important and interesting to call for a few remarks.

The presence of iron in blood is now placed beyond all dispute; but its proportion has been considerably exaggerated. Thus, Menghini, who discovered it, supposed that at some future day, nails, swords, and all kinds of instruments might be manufactured from it. "Non desperaverim ex humano sanguine et clavos et enses, et instrumenta omni genere cudi posse." One of our own countrymen, Dr. Good, asserted, that there was enough iron in the blood of forty men to make a good ploughshare (*Book of Nature*, vol. i. p. 361); and Deyeux and Parmentier broached the idea that medals might be struck to the memory of celebrated men from the iron obtained from their blood! We shall see, however, that the quantity is in by far too small a proportion to realize these ingenious speculations. One fact seems now to be well established, that that portion of blood which is commonly called the clot alone yields this metal. Brande asserted that he obtained an equal portion of iron from serum: but Berzelius and Engelhart subsequently proved that there must have been some error in his experiments. Berzelius, however, admits that there are faint traces of iron in the ash obtained by the incineration of fibrin and albumen. But is the iron inherent in and intimately combined with the colouring matter, or is it merely loosely mixed with it in the state of oxide, phosphate, or in the form of an organic compound? On this point, some of the best authorities are at issue. Berzelius,

Engelhart, and Le Canu, separate the colouring matter from blood by different processes; but each has found in his experiments that the iron came exclusively from the colouring matter, and they consider that it is in an intimate state of combination with it. On the other hand, Brande, Vauquelin, and Sanson, by processes peculiar to themselves, assert that they succeeded in separating from blood colouring matter free from iron; they therefore contend that the iron is not combined with it. It will not be difficult to reconcile these discrepancies. Berzelius has shown that the colouring principle, as obtained by Brande, does yield peroxide of iron on incineration; and indeed this chemist himself admits, that he always found *traces* of that metal in the incinerated residue, although, at the same time, he denies that it is essentially united to the colouring matter. The inferences of Vauquelin and Sanson are set aside by the fact, that they did not operate on the calcined residue. In taking this precaution, Berzelius and Le Canu both detected iron in a proportion equal to that obtained from their own experiments; and by pursuing the process of Sanson for extracting the colouring matter, our author invariably succeeded in demonstrating in it the presence of the metal. We can then come to no other conclusion, than that the iron and colouring matter of blood are intimately combined; and cannot, by any processes short of the utter destruction of the organic matter, be separated from each other. The author then details six experiments in which he extracted the colouring principle from blood by six widely different processes; and yet in each case there was no difficulty in determining the presence of iron in it. We have only room for two of these, which we quote, as they appear to us to show in the most satisfactory manner the intimacy of the union of these two bodies.

"*Experiment* 1. Warm alcohol was digested on dried blood. The alcohol became strongly coloured; and, on cooling, an abundant red deposit took place. This deposit washed, dried, and calcined, yielded an ash very rich in peroxide of iron.

"*Experiment* 3. The blood of the ox was boiled with alcohol containing a few drops of sulphuric acid. I obtained, 1st, an abundant colourless residue, the ashes of which were entirely free from iron; 2d, brown-coloured solutions, which an excess of ammonia changed to a red colour without precipitating a particle of oxide. In these solutions none of the reagents for iron indicated the slightest trace of that metal; while by evaporating them and incinerating the residue, it was clear that they contained it in large quantity." (p. 23.)

But there is great reason to doubt, as the author justly remarks, whether by any of the processes usually resorted to the colouring matter of blood is obtained in a pure state. Thus, according to the method of Berzelius, namely, that of drying slices of the clot on bibulous paper, and the processes proposed by Brande and Vauquelin, the colouring matter must be always united to more or less fibrin and albumen. The plan adopted by Engelhart was to dilute the concentrated solution of colouring matter with so much water, that on heating it to a certain temperature this would alone separate in coagula; while the albumen from the large quantity of water present would, it was supposed, remain uncoagulated by heat. But Berzelius proved that a portion of albumen always separated in a coagulated form with colouring matter; and if any albumen were to be detected after the process in the residuary liquid, this was to be ascribed to the dissolving power of the alkali set free during the experiment. This fact is certain: we can never by the mere washing of a clot in water obtain colouring matter without albumen; therefore experiments, performed, as they usually are, upon such a compound, are not to be relied on as setting forth the properties of the pure colouring principle of the blood. The presence of albumen in the colouring matter, obtained by the different processes above mentioned, was easily demonstrated by Le Canu, in simply washing them with hot alcohol acidulated with sulphuric acid. (p. 26.) Even the principle which he had previously described as *globulin* was thus proved to be a mixture of colouring matter and albumen, but the latter was in less proportion than usual. The colouring principle which was procured by Sanson, although free from albumen, he regards as an altered product, from the means used to procure it. From these facts, it is easy to understand why the properties of this important constituent of blood have been so

differently described by different observers. Indeed, in comparing the accounts of some chemists, it would hardly be supposed that they were describing a substance which, like other independent animal principles, should possess certain distinctive and uniform characters.

M. Le Canu proposes to substitute the name of *hæmatosine*, which was first given by Chevreul to the colouring matter of blood, for *globulin*, subsequently suggested by himself. That is the term which is now, indeed, generally applied by chemists to designate this principle; but we must here premise that the hæmatosine of Le Canu differs widely in its properties from the hæmatosine of other experimentalists. We must refer to the work itself for a full description of the process for obtaining pure colouring matter. The principle of separation is simply this: The blood, deprived of its fibrin, is treated with sulphuric acid until the whole sets into a brown mass. To this alcohol is added, and the mass compressed in linen, by which the water of the blood is removed. The brown residue is now digested by divided portions in boiling alcohol, slightly acidulated, if necessary, until the last portions of alcohol are no longer coloured. By this we obtain a dense white residue,—a compound of sulphuric acid and albumen,—and several alcoholic solutions of a reddish brown colour, holding, among other matters, the red colouring principle. The alcoholic solutions are supersaturated with ammonia, filtered and evaporated to dryness. The residue is a mixture of colouring matter with saline and fatty substances; these latter are separated by repeated digestions in water, alcohol, and ether. The chief properties of hæmatosine thus obtained are the following:

"It is solid, inodorous, insipid, of a dull brown or a reddish black colour, with almost a metallic lustre. It is insoluble at any temperature in water, alcohol, ether, and oil of turpentine, unless these menstrua be combined with a few drops of ammonia, potash, or soda, when it forms a solution of a blood-red colour. By long contact with alkalies, or by boiling in water, it becomes changed in colour and properties; for it is now no longer dissolved by ammoniacal alcohol. Chlorine passed through water holding it mechanically suspended entirely destroys it. White flocculi subside insoluble in water, but soluble in alcohol, while the supernatant liquid will be found by the application of reagents to have become impregnated with iron. The sulphuric, nitric, and muriatic acids act powerfully on it, and entirely alter its properties. When a portion is deflagrated with nitrate of potash, neither sulphuric nor phosphoric acid can be detected in a solution of the residuary salt; facts which prove that hæmatosine contains neither sulphur nor phosphorus. When incinerated, it yields a reddish-coloured ash destitute of alkaline reaction, forming a yellow solution without residue in muriatic acid, on which the ferrocyanate of potash, the hydrosulphuret of ammonia, and the infusion of galls, act as upon a solution of permuriate of iron. The muriatic solution evaporated to dryness yields a solid hyacinth red substance, not a white residue as it would do if it contained phosphate of iron. These experiments show that the ashes of colouring matter consist exclusively of peroxide of iron." (p. 30, *et seq.*)

The author found that one hundred parts of hæmatosine obtained from the blood of two females, the one aged twenty-eight and the other eighty-three years, as well as of two male subjects aged twenty-nine, yielded in each case ten parts of peroxide of iron, which are equivalent $\frac{23}{40}$ to seven parts of metallic iron. The hæmatosine procured from the blood of mammalia, birds, reptiles, and fish, was found to possess the same physical and chemical properties as that derived from the blood of man. M. Le Canu thence takes occasion to animadvert, and in our opinion very justly, on the absurdity of attempting to distinguish the blood of various species of animals effused on linen and clothes from that of a human being. (p. 38.) Although there was no difference in the general properties of hæmatosine, whatever the animal from which it was taken, yet the proportion of iron yielded on incineration was found to vary. Thus while, as we have seen above, one hundred parts of human hæmatosine yielded ten parts of peroxide of iron, the same quantity of hæmatosine of the ox yielded in one experiment 12.85 parts, and in a second 12.67: while this quantity of hæmatosine from chickens' blood gave only 8.34 parts of peroxide. Thus the quan-

tity of iron, although it seems pretty uniform in regard to individuals of the same species, is subject to variation in individuals of different species, and, *à fortiori*, of different classes.

But in what state is the iron combined with the colouring matter? This is a question which has for some time past exercised the ingenuity of chemists, and the answer to which still remains in a great degree a matter of speculation. Deyeux and Parmentier considered that the metal was in the state of peroxide, suspended or rendered soluble by free alkali. Fourcroy and Vauquelin afterwards imagined that the peroxide was combined with phosphoric acid as a basic phosphate: but Berzelius showed that this was not the case: since the subphosphate of iron is not soluble in serum or any modification of albumen, whether an alkali be added or not; and that the colour of the blood could not depend upon the presence of subphosphate or peroxide of iron, was proved by the fact that artificial mixtures containing either of these bodies possessed only a rusty colour, and by no means the bright red tint of the blood. Le Canu is inclined to adopt the opinion of Berzelius, that the iron is in the state of *pure metal* in the blood forming one of its elements, just as phosphorus united to oxygen, hydrogen, and carbon, forms one of the elements of the fatty matter of the brain. (p. 36.) The grounds for this opinion are: if the iron were in the state of oxide, it ought to be separable from the hæmatosine by the muriatic and other mineral acids, which it is not. It ought also to be susceptible of detection by the common and delicate reagents for iron, whereas we know that in a strong solution of hæmatosine these are without effect. With perhaps only one exception the iron cannot be detected in blood prior to incineration. This exception refers to the experiment of Engelhart of passing chlorine gas through a mixture of hæmatosine, in which case the colouring matter is destroyed while muriate of iron is formed and held in solution. It has been contended that this is an additional proof of the iron being in the state of metal since chlorine has no tendency to unite to the oxide of a metal; but Fromherz answers this statement by supposing that the chlorine, in destroying the organic matter, passes to the state of muriatic acid, sets the oxide of iron free, and then combines with it. Rose made artificial mixtures of oxide of iron with different kinds of organic matter; and proved that in these combinations, the tests for iron wholly failed to detect the presence of the metal. Therefore, he argued the iron in blood might be in the state of oxide combined with organic matter, and not be susceptible of detection by tests, owing to that very combination. There is no doubt of the correctness of Rose's experiments: but Berzelius overthrew the conclusion derived from them, by establishing that acids had the power of readily dissolving out the oxide of iron from all such artificial compounds; whence it followed that the analogy between the state of the iron in them and in hæmatosine, wholly failed. Although it is not capable of demonstration, there seems therefore to be every reason to believe that the iron in blood is united in the form of *pure metal* to the ultimate elements of hæmatosine, just as it is united to carbon, nitrogen, and hydrogen in ferrocyanic acid. In both cases it is withdrawn from the operation of ordinary reagents, while in each it is easily susceptible of detection after incineration.

But in whatever state we may presume the iron to exist, there is no reason to suppose that the colour of the blood is due to that metal either in the form of oxide or salt. It is an essential constituent of hæmatosine, and forms, as we have seen, about seven per cent. of that principle; but the colour of the blood is wholly different from that which any salt of iron is capable of giving, even supposing that it were in sufficient quantity. There can be no doubt that the colour of the blood is due to an organic red colouring principle, similar to that of madder or cochineal, which forms the great bulk of the hæmatosine.

Some chemists have thought that there existed a strong analogy between hæmatosine and albumen, but our author shows that there are differences, of which the following are the most important: "Hæmatosine is soluble in ammoniacal alcohol, albumen is perfectly insoluble in this menstruum. Hæmatosine is insoluble in the acetic, muriatic, and sulphuric acids, while albumen is dissolved by them. Lastly, hæmatosine leaves one-tenth of its weight of an ash

consisting of the peroxide of iron, while albumen leaves on incineration no (?) traces of iron." (p. 37.)

After some general remarks on the manner in which the chief constituents of the blood are disposed, as well as on the variety of opinions existing respecting the form, size, and disposition of the globules, the author proceeds to detail his own observations on the fatty principles contained in the serum, chiefly the margaric and oleic *acids*, and on the constitution of the globules.

M. Le Canu adopts the old opinion of Home, Prévost, and Dumas, that fibrin has no independent existence as such in the blood; but that it is an essential constituent of the globules, which he believes to be formed externally of a transparent envelop of fibrin, and internally of a mixture of albumen and hæmatosine. (p. 53.) Thus then, according to this view, the blood is divided into two parts, serum and globules; but the whole of the crassamentum is not formed of globules. This mass locks up within its spongy texture a quantity of serum which must be drained away from it by means of bibulous paper. We then have a residue representing the weight of the globules. The mean proportions in 1000 parts of healthy blood are thus given:

	Le Canu.	Prévost and Dumas.	M. Denis.
Serum - -	869.1	870.8	876.9
Globules - -	139.8	129.2	123.1
	1000.	1000.	1000.

These, it is to be observed, are only average results. In no two experiments will the proportions be probably exactly the same; since the degree to which the crassamentum is drained, and the difficulty of separating from it the whole of the loose serum must make a difference. This will likewise account for the above numbers not corresponding; but the difference there is not very material, although in *individual* instances M. Denis found it very great. Thus it is stated in his paper (p. 179,) that the maximum proportion of globules in 1000 parts of blood reached 173.1; while the minimum proportion was so low as 64.4. We must refer to a table by M. Le Canu (p. 62.) to show that there are great variations in the proportion of the globules, depending in some degree upon the *age* of the subject from whom the blood is taken.

The proportion of hæmatosine in the globules is determined by the process already given. M. Le Canu has not found it to form more than 2 per cent. of the globules; and therefore the colouring matter of blood forms very little more than 2 parts in 1000 of that liquid. This will appear extraordinarily small, especially when we compare it with the statement of M. Denis, (*Archives*, p. 173,) that the hæmatosine forms 18 parts in 1000 of blood; but the discrepancy is removed when we bear in mind that the colouring matter of M. Denis contains albumen, while that of Le Canu is free from this principle.

M. Le Canu analyzed the globules by receiving fresh blood in a saturated solution of sulphate of soda. This prevented coagulation, and kept the globules in his view with their envelopes entire. "After a few hours, the liquid will be found separated into two parts, the upper having a faint reddish tint, while the lower is thick, of a blood-red colour, and by slight agitation rises in the form of small pearly looking globules." (p. 50.) By filtration the supernatant liquid is easily separated; and is then found to consist of sulphate of soda and serum. It has all the characters of a solution of albumen in that salt. "The deposit when quite drained has the consistency of honey. When digested in alcohol, acidulated with sulphuric acid, it surrenders a very small portion of hæmatosine and leaves an abundant white residue, having all the characters of sulphate of albumen." (p. 51.)

This then proves that the globules contain a large quantity of albumen. The next observation seems to bear out strongly the view of the author, that the fibrin is not a substance freely diffused or dissolved in the blood, but really a constituent of the globules. "The deposit treated with a saturated solution of the sulphate of soda is not dissolved, nor is the saline solution in the least coloured by it.

But if the mixture be strongly agitated, a blood-red liquid is obtained; and there is a residue formed of a white membranous looking substance." (ib.)

That this substance is not albumen is proved by its entire insolubility in water: that it is really combined with the colouring matter, either as nucleus or envelope, seems to be well established by the fact that they are not separable from each other except through mechanical agitation or trituration; although the colouring matter itself is proved by this experiment to be easily taken up by the saline solution. For this reason the author considers that fibrin must form the envelope of the globules; since if the colouring matter (hæmatosine and albumen) were external, why should not the solution dissolve it? The fibrinous envelope protects it until this is mechanically destroyed; then it escapes and is dissolved. This, it is true, is an assumption, but it is one which appears to us to be well warranted by the results of the experiment.

The effect of water is singular:

"When water is added to the blood-red deposit it is absorbed; and the deposit swells out to a dark red jelly or clot. If the proportion of water be increased, the jelly disappears entirely; and while the liquid assumes and retains a red colour, there slowly separates from it a white membranous matter, which is known to be fibrin by the following characters: It is insoluble in hot and cold water, in alcohol and ether, but little soluble in ammonia and acetic acid, insoluble in water saturated with sulphate of soda, but taken up, on the contrary, by a solution of nitrate of potash." (p. 52.)

We do not consider our author quite correct here: fibrin is remarkable for its solubility in acetic acid; and so far as our observation extends, it is taken up in only very small proportion by a saturated solution of nitrate of potash. He admits that he owes a knowledge of this last property to M. Denis, who, as we shall have occasion to see, is remarkable for the boldness of his assertions.

M. Denis, who holds that there is no difference between albumen and fibrin, contends that fibrin is held dissolved in the blood; and he considers that he has discovered the secret of the solubility of this principle. He asserts that the salts in the serum render it soluble, so long as it circulates through the living vessels. (p. 173.) Thus then in the view of this gentleman, the serum of blood is nothing more than a saline solution of fibrin, and fibrin and albumen are identical. (p. 176.) Insolubility in water, he observes, is the natural character of albumen, and when we find it dissolved this must be ascribed to the presence of saline matter. We shall now be prepared for M. Denis's explanation of the cause of the coagulation of blood when removed from its vessels.

"The serum while within the vessels is naturally supersaturated with albumen, which it is continually depositing in the round of circulation. For the same reason, it must deposit that principle equally when removed from its vessels. It is in this that essentially consists the phenomenon of coagulation." (*Denis*, p. 180.)

M. Denis is the first chemist whom we have met with who has contended that fibrin was identical with *uncoagulated* albumen. Whether we admit that fibrin is held dissolved in the blood of the living body or not, it is impossible to consider that substance as identical with the albumen of serum, or to suppose for a moment that the small quantity of saline matter united to albumen gives to it its property of solubility in water, and constitutes the difference between them. Many chemists have occupied themselves in endeavouring to establish the identity of fibrin and *coagulated* albumen; but with singular inconsistency they have, at the same time, in other parts of animal chemistry, divided what might be fairly, and is generally, regarded as one substance into many others. We ought to remember that a similarity of properties does not constitute identity, and that these attempts to enlarge or diminish the number of bodies where there is so little necessity, are always attended with considerable mischief. We do not mean to assert that there are any striking chemical differences between *coagulated* albumen and fibrin; but in our view, the fact of albumen existing in two states both in and out of the living body, i. e. as solid and liquid, while fibrin is only known to us as a solid out of the body, as also that acetic acid has a very different solvent action on fibrin and coagulated albumen, are differences far

greater than exist among many organic substances which are commonly regarded as distinct. M. Denis proceeds to prove his propositions by experiment. He says that "if the fibrin of blood obtained by washing the clot in linen be digested in a solution of nitrate of potash for twenty-four or forty-eight hours, or even longer, according to the proportion of salt present, it will be dissolved. The new product will resemble serum or white of egg. It will be precipitated by bichloride of mercury and alcohol, and will coagulate at a temperature of 170°. If this saline solution of fibrin be diluted by a large quantity of water, the fibrin will gradually be precipitated, and reacquire its original properties." (*Denis*, p. 174.)

Being struck with the novelty of this experiment we resolved to repeat it, and employed recently prepared fibrin of blood with a pretty strong solution of nitrate of potash. Although the author says nothing about temperature we employed both a *hot* and *cold* solution, digesting and macerating for four days to be quite certain of the result. The liquids were then filtered, and the greater part of the fibrin employed was unacted on and left on the filter. A solution of chlorine which we find to be the most delicate precipitant of fibrin dissolved in acetic acid, gave a faint opalescence, showing that a very minute portion had been taken up; but neither the bichloride of mercury nor a boiling heat had any effect on the filtered liquid. Alcohol certainly gave a precipitate as it always will in a pretty strong solution of nitre, a fact not noticed by M. Denis, although it could not fail were his statements borne out by experiment to complicate the result. In another trial we allowed the fibrin to digest in a cold solution of nitre after very gently heating it for *fifty days;* but *it was not dissolved.* We therefore think ourselves warranted in rejecting both the experiment of M. Denis, and the hypothesis which he has formed from it. But as nitrate of potash is not contained in the blood, he felt himself obliged to advance a step further than this. We are given to understand that he actually incinerated a portion of blood, then obtained from the carbonaceous residue a solution of the saline matter, concentrated the solution by evaporation until the salts amounted to about from $\frac{7}{1000}$ to $\frac{10}{1000}$ths; and by means of this liquid dissolved about $\frac{75}{1000}$ of fibrin, thus forming an artificial serum. (p. 175.) For reasons above given we put no confidence in this statement.

Thus then, if fibrin be dissolved in blood while circulating in the living vessels, this is certainly not proved by the experiments of M. Denis; far less is it established that the albumen of serum is identical with the solid fibrin obtained by washing the clot. M. Denis's explanation of the cause of coagulation cannot then be admitted; but even allowing to him all that he requires it is impossible to adopt his view of this phenomenon. What physiologist will admit that the influence which leads to the deposit of albumen or fibrin by this liquid in the *living* body, is identical with that which leads to the separation of these two principles in blood after it is drawn from the body? According to this view, life takes no share in the phenomena of separation in the living system; but it is a simple mechanical result of the supersaturation of the blood with albumen (fibrin)!

To return to M. Le Canu. Many of our readers may have observed that the liquid obtained by washing a clot of blood in an excess of water, is in the first instance clear and of a deep blood-red colour; but after a time a whitish-red deposit takes place in it. This cannot be albumen, since that is suspended with the colouring matter; but it must be the fibrin separated during the process from the globules, and which Le Canu believes to form the envelopes. This will explain the effect of water on the red deposit obtained by our author. The globules are destroyed by the process of washing, or even by simple digestion in an excess of water, and the fibrinous envelope being insoluble falls to the bottom of the vessel after a longer or shorter time.

M. Le Canu, it will be perceived, is at issue with other chemists chiefly on the point whether fibrin be held dissolved in the blood or not. His opinion of that principle being an essential constituent as a solid envelope of the globules, certainly appears to us to receive support from his observations and experiments. Thus he contends, the globules unless agitated are permanent in saline solutions,

but are destroyed by water. Hence the globules are suspended in serum without rupture because it contains saline matter. They disappear on the addition of water to blood because the strength of the saline solution is thereby diminished; the envelopes are ruptured and the colouring matter and albumen taken up by the water. Again, it is impossible to obtain separately serum and globules from blood which has once been violently shaken, and this liquid does not coagulate when it has been well beaten or agitated. In both of these cases the facts are explained by the constitution of the globules being destroyed. One point here occurs to us which seems to require explanation. The author employed in his experiments a *saturated* solution of sulphate of soda; but the serum is far from being a saturated solution of saline matter. Besides the most abundant salts in the blood are, upon his own showing, the muriates of potash and soda; and he states he found that a solution of common salt tended to *dissolve the colouring matter* of the globules much more rapidly than the sulphate of soda. Is there not some discrepancy here? Is the author at least not bound to show that an artificial mixture, resembling serum in the *nature* as well as in the *proportion* of its saline contents, has no more influence upon the globules than ordinary serum? The permanency of the globules in this liquid cannot obviously be referred to its saline contents before some such experiment as this has been successfully performed. We put it to the author, whether it be physiologically or chemically accurate to draw an inference respecting this assumed property in serum, from an experiment made upon a *saturated* solution of a particular salt which does not exist in that liquid?

M. Le Canu, although he believes fibrin to be solid in the blood, acknowledges that a coagulable principle occasionally separates from that liquid in a solid form. The nature of this he does not attempt to explain; but he imagines that, under certain conditions of the economy, albumen may acquire the property of becoming spontaneously coagulable. The formation of a buffy coat appears also to offer a difficulty to his view of the constitution of the globules. He considers that this may be due to a similar cause; to the production of a substance analogous to a false membrane on the surface of the crassamentum, or to an increased formation of fibrin. We do not think, however, that this explanation removes the difficulty; for the section of a clot with a buffy coat shows that the colour is gradually shaded off, from the almost colourless surface to the under part, where it is most intense: a fact which seems to prove that the colouring matter is distinct from the fibrin, and is capable of falling through it while consolidating, if the process take place slowly. Besides, those lengthened masses of pure fibrin often found in the heart and great vessels after death cannot have their origin thus explained.

For the method of analysing the blood, we must refer our readers to the work itself; but we think it proper to subjoin the mean result of the analysis of venous blood by the author, as his views are somewhat peculiar respecting its constitution:

Analysis of Venous Blood.

Water	790.3707
Saline and fatty matters .	10.9800
Albumen . . .	67.8040
Globules . . .	130.8453
	1000. (p. 59.)

Our readers will here remark that neither fibrin nor colouring matter is mentioned as a constituent of the blood, while the quantity of albumen is less than we find commonly stated. These facts are explained by referring to the author's views on the composition of the so-called *globules*. These are formed of albumen in very large, and of fibrin and hæmatosine in very small, proportion. Thus the following is his analysis:

Fibrin . . .	2.9480
Hæmatosine . .	2.2700
Albumen . . .	125.6373
	130.8453 (p. 60.)

Without this index, we should be at a loss to reconcile the author's analysis with the results obtained by other chemists. From it we learn that the total quantity of albumen in blood amounts to nearly one-fifth of the whole; that the fibrin forms about 3-1000ths, while the hæmatosine, or *pure* colouring matter, forms little more than 2-1000ths of the mass. We have already seen that this yields 7-100ths of its weight of metallic iron; whence we infer that the proportion of iron in blood is no more than about 1-7000th. Le Canu makes it 1-4405, (p. 65;) but, allowing for the decimals, he appears to have calculated for the proportion of oxide of iron, and not of the pure metal. At the same time we fully agree with him that no great importance is to be attached to calculations of this sort; and the less so, since we do not find that there is much agreement in the reports of any two observers. Still, by showing how minute the quantity of metal is, they set at rest two points: they refute the exaggerated statements of the older chemists, and they serve to establish that the colour of the blood cannot depend upon the mere presence of this metal.

In regard to *Sex:* it is found that, while the proportion of albumen is about the same, the blood of the male contains less water and more globules than the blood of the female. We are to understand by the albumen here, and in all future observations, that portion only which enters into the composition of serum, and not that which has been described as forming part of the globules. The chief modifications which the blood undergoes in persons of different temperaments and ages are observed to relate chiefly to the relative proportions of serum and globules; the quantity of albumen being subject to little variation. Thus, the serum is in less and the globules are in greater proportion in individuals of a sanguine than in those of a lymphatic temperament; in adults than in infants or old persons; in those who take much nourishment than in those who take little. Thus the author remarks, "the proportion of globules in the blood would seem to be an index of the vital energy." (p. 69.) So again: "By a singular coincidence, every cause that tends to diminish the mass of blood in the body tends at the same time to diminish the relative proportion of globules, by increasing the quantity of water; so that those causes which diminish the fulness of the vessels at the same time impoverish the blood, and render it more fluid. Uterine hemorrhage in the female, and copious bleeding in either sex, are well known to have this effect." (ib.)

The author next describes the differences between arterial and venous blood, and he arranges in order the observations of different chemists, which are in some instances of the most conflicting character. By sifting the statements of some, and testing the correctness of others by experiment, he comes to the conclusion that the following are the only appreciable differences between the two kinds of blood:

"*Arterial* blood is of a brighter vermilion colour, and possesses a stronger odour, than *venous*. It has a greater tendency to coagulate, furnishes a larger and firmer clot; facts which show that it has a greater proportion of globules and less serum. It contains more fibrin, and the solid matter being in greater proportion, its density is higher than that of venous blood. The albumen, saline and fatty matters, are about equal in the two kinds of blood. Arterial blood is richer in oxygen, in proportion to its carbonic acid, than venous; and, by ultimate analysis, it yields less combined carbon and more combined oxygen." (86.)

The properties of the blood of the *capillary* system are given on the authority of Pallas; of that of the vena portæ, on the authority of Prévost and Dumas; while the characters of placental blood are derived from the observations of Denis. M. Le Canu here presents us with nothing original. The blood of the capillaries was not found to differ sensibly from that of the veins; and, although the blood of the vena portæ seemed to offer a smaller proportion of globules, yet this was only in comparison with the *mean average* of venous blood: the quantity of globules was within the ordinary range of variation of healthy blood. The blood of the placenta Denis found to contain less water and more globules. It is singular that the blood of the fœtus should differ in the same respects from that of the mother; for the proportion of globules in fœtal blood is far greater

than in that of the mother. This is precisely the change which the lungs work after birth; and it is a proof, therefore, that the placenta, in the unborn child, really occupies the place of lungs.

We now arrive at the last part of the work, namely, that which refers to the changes which take place in the blood under certain *pathological* states of the system. This is obviously the end to which all researches on the blood ought to be directed; for our knowledge of the chemical properties of this fluid will be valueless, unless made auxiliary to the purposes of medical practice. We wish we could look forward to the realization of the anticipations of the author, as to the good likely to be wrought on medicine by the pursuit of these inquiries; but we fear a very long period must elapse before this end will be attained: nevertheless, we willingly agree with him that, when we compare our knowledge of this important liquid with that which existed but half a century since, we have indeed reason to congratulate ourselves on having made more than one step towards the desired object. The following observations are very just:

"Our knowledge of the pathological changes which take place in the blood must be necessarily imperfect, until we know exactly, and in the minutest details, the composition of normal or healthy blood. At present we are not acquainted with all the immediate principles of the blood in health: for instance, we know nothing of those numerous substances commonly confounded under the name of *extractive matters;* we cannot determine exactly the proportions even of those principles with which we are best acquainted; and, lastly, there is not a single principle in the blood which may not undergo important changes, without these becoming appreciable in analysis." (*Le Canu*, p. 93.)

We should recommend M. Denis to adopt the philosophical caution implied in these sentiments, and not suppose, as he seems to do, that he has left future chemists nothing to occupy themselves with in relation to this subject. For instance, we are told by him "that chemical experiments are everywhere at hand to assist us, and that these must take precedence of all explanations," (p. 180;) while, immediately afterwards, he furnishes us with thirteen conclusions, in as many paragraphs, which, for crude hypothesis and hasty generalization, we have seldom seen surpassed. It is strange that one generation will not profit by the errors of another. We laugh at the false reasoning of the older chemists, but we do not hesitate to plunge into the very system which misled them. It is fortunate, however, that, by a strictly inductive method of research, it is as easy to expose such absurdities as it is to invent them. We shall dismiss this gentleman's "new experiments" on the blood with one quotation, showing the application of his views to therapeutics. It appears that, among other cases, he has endeavoured to cure the croup *on chemical principles.*

"The croup," he says, "consists physically in a false fibrinous membrane lodged in the trachea. M. Denis conceived that it might be attacked directly by the introduction of substances exerting a solvent action over it, and indirectly by introducing into the blood, through the medium of absorption, other substances possessing a similar power. He asserts that he has *successfully* employed for this purpose salts resembling those of the blood." (*Denis*, p. 184.)

But to return to the more cautious views of M. Le Canu. We do not find that the author has advanced much that is original on the pathology of the blood; but he has carefully collected, arranged, and commented on the statements of other experimentalists respecting its abnormal conditions in numerous diseases. He presents us, indeed, here with a good summary of all that is known on this interesting subject.

The menstrual secretion appears to differ from blood in containing more water, less albumen and globules, and an admixture of variable proportions of mucus.

In inflammatory affections, the quantity of globules increases; or, in other words, the proportion of water is diminished.

Dr. Rollo announced, now many years since, that in diabetes the blood contained sugar; but the researches of numerous able experimentalists have rendered it probable that he was deceived. Vauquelin operated on the blood of a diabetic patient, whose urine contained one-seventh of sugar, without finding a

trace. The only well-ascertained fact appears to be, that in this disease there is a diminution of the proportion of globules.

The state of the blood in icterus has given rise to considerable discussion. Some have contended that this liquid always contains bile; others that it does not contain any; and a third class of pathologists have admitted, a *mezzo termine*, that it receives only the colouring principle of that secretion. This last opinion appears to be correct: for, while no one has succeeded in detecting all the elements of the bile in the blood of icteric patients, many have found in it yellow, green, and blue colouring principles, resembling, if not identical with, those present in bile. Le Canu observed that the globules were also in much less proportion in these cases. But we must not consider it positively established that the bile never finds its way into the blood. How are we to discover all the complex principles of the bile, more especially picromel, in a still more complex liquid like the blood? There are assuredly no tests at hand to assist us; and even if there were, it is more than probable, from an experiment of Thénard's, that they would not be available. This distinguished chemist could not find a trace of bile in the blood of an animal, into the veins of which a large quantity had been purposely injected. It had probably been decomposed or altered in the round of circulation. This preliminary experiment should be tried by all those who undertake the pathological analysis of the blood. There is no doubt that the bile has been pronounced, in many instances, to have been present both in the blood and urine, merely from the circumstance of a yellow colouring principle, capable of being affected by mineral acids, like that of bile, having been found in those liquids: but it is quite certain that the discovery of this colouring matter in either case is no proof of the presence of the whole hepatic secretion.

The author had frequent opportunities of examining the blood in malignant cholera, and his results correspond with those obtained by good observers in most countries where this scourge has prevailed. Leaving out trifling differences, which may have depended on purely accidental causes, the most striking and constant deviation appears to have been that the solid matters were in very considerable proportion. At the time that the cholera was most severe in Paris, the following results were obtained from the analysis of the blood of three persons labouring under it.

	1st An.	2d An.	3d An.
Solid matters (globules) . .	340	251	520
Water (serum)	660	749	480
	1000.	1000.	1000. (p. 106.)

By this it will be seen that the solid matters were in some instances twice as great as in healthy blood; a condition which did not arise from any increase in the solid, but from a diminution in the liquid contents of the vessels. We agree with the author in thinking that this state of the blood might, perhaps, be made to serve as a criterion of the nature of the malady. The intestinal discharges seem to acquire what the blood loses: these have a powerfully alkaline reaction, and contain albumen with extractive matters, resembling those of the blood.

In typhus fever, the author has found the globules to be below the mean, and even below the minimum proportion in healthy blood. Bonnet observed that hydrosulphuret of ammonia was present in these cases; but this may have depended on the blood having rapidly putrefied after abstraction. This substance is a product of putrefaction; and it is hardly likely that it should be formed within the blood while circulating through the living vessels.

In disease of the heart, the quantity of serum was found to be large, and the clot small. Repeated venesection seemed to have the effect of increasing the proportion of globules.

After the discovery of iron in the blood, it was supposed that the pallor peculiar to chlorosis was due to a diminution in the quantity of that metal: and this seems to have been the foundation of the use of ferruginous preparations in its treatment. Le Canu found that chlorotic blood contained much less than its healthy proportion of globules, and consequently less iron: but the disease cannot be owing to this deficiency, since the same diminution is met with in other

and widely different diseases. Other experimentalists have corroborated these results.

In some pathological conditions, as in diabetes, dropsy, peritonitis, nephritis, and hepatitis, the blood has been observed to assume a creamy appearance, just as if milk had been mixed with it. This appearance has been proved by the author and other chemists to be entirely due to the suspension of an excess of animal fat or oil in the serum, and not to casein, as it was formerly supposed. There is at the same time a considerable deficiency, or almost entire absence, of red colouring matter.

Such is an outline of what we believe to be the principal facts connected with the healthy and morbid condition of the blood, so far as the observations of chemists have yet extended. The chief fluctuations in disease relate to the increase or diminution of the globules; and we cannot hesitate to assent to the proposition of M. Le Canu, that many morbid states in the system may be due to insidious changes in the nature and proportion of the constituents of this important liquid. Without adopting the extreme views of humoral pathologists, there is nothing to prevent us supposing that fatal impressions on the system may also operate by altering the blood. Many poisons may in this manner destroy life, although chemistry has not yet succeeded in establishing their presence in this liquid.

We shall conclude our notice of M. Le Canu's thesis by saying that it reflects the highest credit on the author. There is much that is original; and this, together with what he has compiled from numerous sources, forms, in our opinion, the best modern history of the blood.

[*Tenth Annual Report of the Inspectors of the Eastern State Penitentiary of Pennsylvania. Read in Senate and House of Representatives, Feb. 19th, 1839.*]

PHYSICIAN'S REPORT.*

To the Inspectors of the Eastern Penitentiary of Pennsylvania, the Physician respectfully presents his Annual Report of 1838.

The prisoners received this year, classed in reference to health and colour, are—

White prisoners in good health, ...	68
do. do. in imperfect health, ...	47
Coloured prisoners in good health, ...	30
do. do. in imperfect health, ...	33

Making of the 178 total admissions, 115 white, and 63 coloured prisoners; 98 in good and 80 in imperfect health. These 80 prisoners in imperfect health, have introduced into the Penitentiary 114 items of diseases, of which 39 are Syphilitic, 28 Thoracic, 15 Abdominal, 11 Febrile, 6 Cephalic, and 4 Scrofulous, as appears from the following table.

TABLE OF THE DISEASES OF PRISONERS ON ADMISSION IN 1838.

Syphilitic, 39—Gonorrhæa, 12; Swelled Testicle, 2; Stricture, 2; Dysury, 3; Fistula in Perænео, 1; Primary Syphilis, 3; Secondary Syphilis, 7; Liability to Secondary Syphilis, 4.

Thoracic, 28—Cough, 9; Dyspepsia, 5; Thoracic pains, 10; Effects of Pleurisy, 3; Catarrh of the Frontal sinuses, 1.

Abdominal, 15—Dyspepsia, 5; Cramps of Stomach, 1; Chronic Hepatitis, 2; Dysentery, 2; Constipation, 3; Hæmorrhoids, 1; Fistula in Ano, 1; Periodical Colic, 1.

Fevers, 11—Fever, 2; Intermittent Fever, 4; Effects of Intermittent Fever, 4; Effects of Yellow Fever, 1.

* We willingly give a place to the whole of the Report of Dr. Darrach, the intelligent and estimable gentleman who has the medical charge of the Eastern Penitentiary.—Edit.

Cephalic, 6—Chronic Headache, 1; Effects of recent Mania a Potu, 1; Convulsions, 3; Effects of a recent Insanity, 1.

Various, 17—Rheumatism, 5; Uterine Complaint, 1; Debility, &c., 4; Herpes, 1; Ulcer of legs, 1; Abscess, 1; Scrofula, 4.

Seventy-five of these complaints are among 62 white persons, and thirty-nine among 44 coloured; and of these last, fifteen are syphilitic and three scrofulous.

The prisoners discharged this year, classed in reference to health and colour, are—

1. White prisoners admitted and discharged in good health,	. .	47
2. do. do. admitted and discharged in imperfect health,	. .	16
3. do. do. discharged in better health than when received,	.	16
4. do. do. discharged in worse health than when received,	.	5
White,	.	84
1. Coloured prisoners admitted and discharged in good health,	. .	22
2. do. do. admitted and discharged in imperfect health,	. .	7
3. do. do. discharged in better health than when admitted,	.	6
4. do. do. discharged in worse health than when admitted,	.	2
Coloured,	.	37

making of the 121 total dismissions, 91 in good, and 30 in imperfect health. The diseases which these thirty discharged prisoners have taken with them into the community, are 13 cases of dyspepsia, 4 of cough, 2 of palpitation of the heart, 1 the effect of small-pox, 1 of painful swelling of the inguinal glands, 1 of scrofula, 3 of thoracic pains, 1 of chronic catarrh, and 1 of rheumatism.

It is evident from the above statements, that the Penitentiary has received from the community, a heavy amount of disease, and that it has discharged very little. 55.5 per cent. only of the admissions were in good health, whilst the dismissions in good health are as high as 75.20 per cent., a surplus of health from this institution of 20.15 per cent.; again, 44.27 per cent. of the admissions were in imperfect health, whilst the dismissions in imperfect health were only 24.70 per cent., a surplus of ill-health from the community of 19.48 per cent., that is, the Penitentiary has been the recipient of disease, and dispenser of health.

The enclosed table shows the number, character, and monthly distribution of all the cases of acute and chronic disease, together with the disorders and ailments which have occurred the past year. The diseases in this medical register, requiring special notice, are small-pox, chronic pleurisy, inflammation of the lungs, and acute dementia.

The first case of small-pox occurred on the 29th of Januury, in a white prisoner, No. 395, aged 48 years, occupying a cell in the lower story of the 4th block, and who had been in solitary confinement two and a half years. He had been neither inoculated nor vaccinated, and suffered a severe, unmodified form of the disease. At the time of the attack, he was employed in mending old shoes brought from the House of Refuge, a pair of which had been worn by a lad, shortly, or perhaps immediately before a very mild attack of varioloid. Through inadvertence, the clothing of No. 395, were washed by a white male prisoner, No. 824, on the 5th of February, who also was unvaccinated. On the 1st of March, he sickened, and after very severe and protracted suffering, recovered with the loss of an eye and with other mutilations. These, and other cases, indicate a contagious and highly malignant character of the disease. It observed, however, the ordinary laws of an epidemic, in the diversified locality of the cases throughout the different blocks of cells, its common premonitory symptoms and type, its gradual approach and termination, its long intervals, and its sudden augmentation within a short centre period, nineteen cases only occurring during forty days, then twenty-five in only five days, and then again thirteen cases only in the last twenty-five days of its existence. The protective measures, immediately used, were the appropriation of contiguous cells, and nurses for these eruptive cases, the depuration

of the cells and clothing, and the introduction of the vaccine into the arm of every prisoner, without regard to previous vaccination, during or before imprisonment.

In view of the neglect and carelessness in regard to vaccination among such as become prisoners, and the strong probability that the vaccinating of adults, is less efficient than of infants, it is remarkable that among 404 prisoners, 59 cases of the disease only occurred in a period of 80 days; that only 15 of them were unmodified small pox, the rest being more or less the mitigated form of the disease; and that of the entire number, two only died, though of its consequences, in aggravating chronic disease, three coloured prisoners subsequently died. I can attribute the alleviation, which is greatly in contrast to the ravages of this deadly scourge among the North-western Indians about the same period, and to that in camps and prisons of promiscuous intercourse, to the constant separation of the prisoners in cells, by which any superinduced contagious influence was arrested, and to the protection of vaccination. I must also think favourably of the plan adopted of freshly inserting the vaccine, as executed by Dr. Allison, a tabular statement of whose labours have been presented to the Board. It shows that of the total number then vaccinated, 133 were more or less specifically affected, and that of those on whom no effect was produced after a second and third operation, 73 had had the small pox, 21 had been inoculated, and 58 had evidently been completely vaccinated. It may be worthy of remark, that only 13 of the 59 cases were among the coloured prisoners, 7.82 per cent., whilst its prevalence among the white prisoners was 17.52 per cent., and that the 13 severe unmodified cases, of whom were the 2 deaths, were among these prisoners. Further detail of this disease is contained in the tabular statement presented to the Inspector in April, which shows the locality, number, age, colour, occupation, date of attack, character of the eruption, supposed communication, and event of each case.

In regard to the effects of continued separate imprisonment on the mind, two years' observation inclines me to believe that the cases of mental disorder occurring in this Penitentiary, are, with a few exceptions, of short duration, curable, and caused by masturbation, and are mostly among the coloured prisoners. The facts contained in the following table, throws light on this subject.

The terms, Mania, Monomania and Hallucination, used in this table, have a fixed meaning; but Dementia is a term liable to discussion, owing to its more or less copious, and its unsettled signification. It is used to designate those varieties of weakened intellect which result from old age, palsy, and kindred diseases; that which occasionally alternates with mania and melancholy, and that in which these forms of insanity too often terminate. Dementia is, however, also applied to those cases of weakened intellect, which are produced from masturbation, of which there are evidently two kinds; viz: 1st, that which Esquirol places under the second variety of his third species of insanity, and is called *chronic* dementia; 2d, that which is recent, and *may* properly be placed under the first variety, called by this distinguished authority on mental disorders, *acute* dementia. The cases in the table, are mostly of this latter kind. By masturbation, the physical energies of the cerebrum are diminished, whilst those of the cerebellum are morbidly augmented, so that with the incoherence which characterizes dementia, there exists also erroneous perceptions, and a manifestation, more or less violent, of ungoverned and lustful passions. If, through ignorance of this specified cause, and consequent inappropriate treatment, these acute cases of dementia are permitted to continue, they become, I apprehend, the sad cases of chronic dementia from masturbation, which are found in Lunatic Asylums and Hospitals. The treatment in the Eastern Penitentiary, has, as yet, prevented such results.

TABLE OF THE MENTAL DISORDERS IN THE EASTERN PENITENTIARY, DURING 1838.

WHITE PRISONERS.

Prisoners.	Age.	Country.	Health on admission.	Diseases.	Causes.	Present state.	Duration of Attack.	After Imprisonment.
No. 661	20 y'rs.	Pennsylva.	Good, . . .	Monomania, . .	Mst. .	Relieved to a degree; subsequently died of consumption,	6 mo. 10 d.	0y. 10mo. 3d.
342	22	Ireland,	Scrofula, . .	do. . . .	Scrofula,	Do. and at work, . .		2
776	27	Ireland,	Disturbed mind, .	Dementia, acute, .	Unknown,	Cured; occasionally peculiar,	2 6	8 5
835	22	New York,	Good health, . .	do. do. .	Mst. .	Cured, ...	1 1	3 9
675	60	Ireland,	Imp. health, dis. mind,	do. do. .	Dis. mind,	Cured, ...	4 18	2 3 7
546	31	Pennsylva.	Imp. health, troubled mind, . .	Hallucinations, about a pistol pres. at his wicket,	Unknown,	Cured, yet he says it *was* so,	14	2 5 4
859	55	Pennsylva.	Good health, . .	Hallucinations, .	Unknown,	Cured, ...	9	6 1
842	27	Holland,	Good health, dis. mind.	Mania, . . .	Unknown,	Continued, . . .	5 20	7 12

COLOURED PRISONERS.

Prisoners.	Age.	Country.	Health on admission.	Diseases.	Causes.	Present state.	Duration of Attack.	After Imprisonment.
No. 556	22 y'rs.	Africa,	Good health, m. doubtful,	Dementia, acute,	Mst.	Cured, . . .	16 days,	2y. 3m. 5d.
322	22	Pennsylva.	Good health, m. sorry, .	do. do.	do.	do. . . .	7d. & at work,	3 2 10
812	21	Delaware,	Imperfect health, . .	do. do.	do.	do. . . .	11d. do.	0 5 17
800	18	Pennsylva.	do. do. . .	do. do.	do.	do. . . .	2m. 8d. do.	0 7 20
741	72	Pennsylva.	Good do. . .	do. do.	do.	Rel'd, but with Halluci.	7d. do.	1 0 19
888	32	Baltimore,	Chronic disease, & Gonor.	do. do.	do.	Cured, . . .	1m. 5d. do.	0 3 24
924	17	Maryland,	Imp. from Mst. & Gonor.	do. do.	do.	do. . . .	4d. do.	0 1 8
921	23	Delaware,	Syphilitic and Asthmatic.	do. do.	do.	do. . . .	19d. do.	0 2 27
632	24	Pennsylva.	Health good, mind indiffer.	do. do.	do.	do. . . .	1m. 0d. do.	0 1 6
721	24	Delaware,	Emaciated and sickly, .	do. do.	do.	do. . . .	2m. 6d. do.	0 1 6

The important facts disclosed by the above table, are 1st, that the period of continued separate imprisonment, previous to mental disorder, is very short; in ten of the eighteen cases, it is less than a year, the longest being 8 months and 5 days, and the shortest only 39 days, making an average time of only 5 months and 12 hours. The average time of the other eight cases, is about 2 years and 9½ days. Four of these cases are coloured prisoners, who had only short attacks of acute dementia from masturbation. Of the remaining four cases, No. 661 became first irritable, obstinate and violent from masturbation, then monomaniac, and after becoming fatally consumptive, recovered his mind. No. 342 had his attack immediately after the healing of a chronic scrofulous running of his ankle joint, and now he is at work, with a mild peculiarity of mind on certain subjects. No. 675 is an aged prisoner, who came in vexed about being falsely imprisoned by false witnesses; after 4 months 18 days of mental debility and hallucination, he is now comfortably at work. No. 546, had for 14 days an hallucination of a pistol presented at his wicket constantly; he is now fat and florid, and at work, but is obstinately of the opinion that the pistol was presented at him, and becomes excited if opposed in this belief. How can *solitude* and *confinement* be the cause of these cases of disordered mind:—If these be the agency, it has been efficient in ten cases in less than a half a year. 2d. Of 241 *white* prisoners, there are only 8 cases of mental disorder, equal to 3.33 per cent., whilst of the 161 *coloured* prisoners, there were 10 cases, equal to 6.21 per cent., showing a double liability in the coloured prisoners of the Eastern Penitentiary to disorders of the mind, which, I apprehend, is a novelty. 3d. That the less intelligent of the prisoners, particularly the coloured, during the *early* period of their imprisonment, practice excessive masturbation. I say "*the early period*," because it is then this vice is chiefly practiced, owing doubtless to their recent separation from all the low forms of sensuality, to which, in the community, they were slaves, from which, however, they become gradually weaned by the regular six days profitable labour, and sabbath rest, and gospel ministry of their separate imprisonment. The effects of this practice, are first to produce dyspepsia, then acute dementia, and finally chronic pleurisy and pulmonary tubercles. Remove this cause, and the diseases of this Penitentiary will chiefly be those brought into the institution. I am happy to state that my observations, during two years in this Penitentiary, have not only exposed to me the chief causes of some particular diseases, but that they have enabled me to apply more efficient treatment, and that in coming years there is a prospect of less mortality, and fewer cases of mental disorder. In view of the above facts, what effect has the solitude and confinement of this Penitentiary, such as it is, with faithful, kind, supervision, daily labour, well lighted, ventilated, and warm cells, and medical and gospel visitations and ministrations, to disorder the mind of the prisoners. If such imprisonment produced this result, it has done it in the short average period of 5 months and 12 hours, in the cases of 10 prisoners this year, whilst hundreds of prisoners, some of whom have been in its solitude and confinement for years, have been already discharged from this institution in better state of body and mind than when they entered it.

The following tables exhibit a view of the diseases, their causes, the state of health on admission, and length of imprisonment at the time of disease of each of the fatal cases this year, among the white and coloured prisoners.

WHITE PRISONERS.

Prisoners.	Diseases.	Causes.	State of Health on Admission.	Length of Im. at Decease.
No. 785	Ch. Inflam. of Bladder, &c.	Large Calculi encrysted,	Admitted with the disease,	0y. 4m. 19d.
661	Consumption,	Masturbation,	Good,	1 3 5
739	Consumption,	Syphilitic,	Secondary Syphilis,	1 0 0
429	Small-pox,	Unprotected,	Good,	2 6 0
887	Small-pox,	Unprotected,	Good,	0 0 20
304	Ch. Diarrhœa,	Ch. Dementia. from Mst.	Debility of body and mind from Mst.	3 6 10
650	Consumption,	Tubercular Diathesis,	Freq'nt Hæmoptisis,	0 10 25

This table shows the incurable nature of all its items of disease. No. 785, was considered, on consultation with Drs. Hewson and Bache, unfit for an operation. Two large, hard calculi, found encrysted in an inflamed, contracted and thickened bladder, and the urethras and kidneys greatly enlarged. The disease of No. 304, was the result of general atony of mind and body. The three cases of consumption were from masturbation, syphilis and tubercles. The two cases of small-pox were violent, one of them terminating on the 4th day after sickening, and neither protected. The causes of all the cases, except that of No. 661, were brought into the Penitentiary or were incidental, and the time of all, except that of No. 304, were short. These deaths are among 241 white persons, making 2.86 per cent. with, and 1.65 per cent., without those from small-pox.

COLOURED PRISONERS.

Prisoners.	Diseases.	Causes.	State of Health on Admission.	Length of Im. at Decease.
No. 615	Consumption, . .	Ch. Pl. & Pereca.	Ch. Pul. Disease,	1y. 5m. 0d.
347	Chronic Infl. of the Lungs,	Scrofula, .	Good he'lth appa.	3 0 21
688	Scrofula of the Chest, .	Syphilis, .	Syphilitic,	1 5 10
442	Chro. Infl. of Stom'h & Pleu.	Masturb. & Cold,		2 7 10
251	Chro. Infl. of the Lungs,	do. do.	Good health,	4 0 3
814	do. do. do. .	Chron. Pleurisy,	Ch. Pul. Disease,	0 8 2
679	do. do. do. .	do. do.	Good health,	1 6 16
834	Ch. Infl. of the peritoneum,	Small-pox & Scr.	Scrofula,	0 7 18
716	Ch. Infl. of the Bowels, .	do. do.	Imperfect health,	1 4 29
768	Consumption, . .	Chron. Pleurisy,	Scrofulous,	0 13 10
446	Chro. Infl. of the Lungs,	Mst. . .	Good health,	2 10 11
574	do. with Scrofula, . .	Do. Syph. & Scr.	Syphilis & Srof.	2 5 23
290	do. do. . . .	Double Ch. Pleu.	Good he'lth appa.	3 11 13
645	Infl. of Bladder, with Paraly.	Mst. & Ch. Pleu.	Very good health,	1 11 27
653	Ch. Scrof. Infl. of Peritoneum and knee-joint, . .	Scrof. and double Ch. Pleurisy,	Scrofulous,	2 0 3
815	Ch. Scrof. Infl. of Peritoneum,	Ms. & d'le Ch. Pl.	Imperfect health,	1 0 25
549	Chro. Inflam. of the Lungs,	Do. do. do.	Gonorrhœa,	2 10 8
647	Consumption, . .	Do. do. do.	Imperfect health,	2 1 11
844	Consumption, . .	Tubercles,	Good health,	1 0 21

All the diseases of this table are of an incurable character. One is scrofula; 5 are chronic abdominal diseases, consequent to thoracic disease; 4 are tubercular disease of the lungs, and 9 are chronic inflammation of the lungs. The most common causes are masturbation, cold, chronic pleurisy, and next to these syphilis, scrofula and small-pox. Seven of these prisoners were admitted in good health, and the rest had among them chronic pulmonary disease, syphilis and scrofula.

It appears from these tables of mortality, that 26 deaths have occurred during the past year, a greater mortality by 44 per cent. than has previously happened. This augmentation has evidently been owing to small-pox, chronic pleurisy and chronic tuberculous inflammation of the lungs, among the *coloured* prisoners. These prisoners, of which there are 40.14 per cent., have caused 73.07 per cent., of the mortality. The deaths directly and indirectly caused by small-pox, and the incidental case of stone in the bladder being included, the total per centage of mortality among an average of 401 prisoners, is $6\frac{1}{2}$ per cent., that among 241 white prisoners is 2.86, and that among 161 coloured prisoners is 11.80; and exclusively of the 5 incidental cases, the total per centage is 5.23 per cent., that of the white 1.65 per cent., and that of the coloured prisoners 9.85. These estimates, in regard to the white prisoners, show a mortality about the same as that in the community, whilst in regard to the coloured prisoners, it is about double, as appears by the following table.

Table of the Annual Mortality of White and Coloured Persons in the City and County of Philadelphia, and in the Eastern Penitentiary of Pennsylvania.

Population.		Mortality.		Per Ct.
White Pop. of City and Co'y of Phila.	172,306	Mortality in 1830,	3651	2.11
White Pris. of Eastern State Penitent.	241	Entire Mort. in 1838,	7	2.86
do. do. do.		Mort. without that from Small-pox, &c.	4	1.65
Colo'd Pop. of City and Co'y of Phila.	15,655	Mortality in 1830,	643	4.10
Colo'd Pris. of Eastern State Penitent.	161	Entire Mort. in 1838,	19	11.80
do. do. do.		Mort. exclusive of effect of Small-pox, &c.	17	9.85

The important facts which this table disclosed, are, 1st, that the mortality among the white prisoners of the Eastern Penitentiary, is only .75 per cent. greater than that in the community; and that exclusively of the deaths from small-pox, and one from calculi, it is .46 less than that in it. 2d. Among the coloured prisoners, it is more than double of that of this portion of our city and county. With this fact in view, it is not surprising that, among that depraved part of the coloured population who become prisoners, there shall be an average of 9 per cent. of mortality. This analysis will serve to correct an allegation which has been made, that the mortality of the Eastern Penitentiary is greater than that of the other prisons of the United States.

This Institution has an incomparable amount of coloured prisoners, as the following table demonstrates.

Table showing the comparative number of Coloured Prisoners in the Prisons of the United States, in 1837.

Prisons.	Pr's in 1837.	Coloured Prisoners.		Per Ct.
Prison Sing Sing of N. York,	753	of which 1 to 5 of whole number are col'd,		
New Prison of Tennessee,	122	do.	2 are coloured. . .	1.93
State Prison of Auburn, N. Y.	678	do.	30 do. . . .	4.41
State Prison of Vermont,	92	do.	4 do. . . .	4.79
St. Pr. of Charlestown, Mass.	291	do.	24 do. . . .	8.24
New Prison of Ohio,	392	do.	41 do. . . .	10.45
Prison of Baltimore,	387	do.	73 do. (South. S. State.)	18.86
St. Prison of Wetherfield, Ct.	190	do.	49 do. . . .	25.26
Eastern Penitentiary of Pa.	386	do.	154 do. . . .	31.28
*New Prison of N. Jersey,	141	do.	49 do. . . .	34.75
*Prison of Washington, D. C.	76	do.	49 do. (Sou. & S. Sec.)	65.47

These eleven prisons contained, it appears, in 1837, about 475 coloured prisoners, of which 154 were of the Eastern Penitentiary of Pennsylvania, and doubtless the most depraved and diseased. An average per centage of 32.30 of the total number. The coloured mortality in the community being to that of the white, as 5 to 2, a proper estimate of the average mortality of the Eastern Penitentiary, will likely be found less than the other prisons of this country, as its average white mortality in 1837 is less than that in the prisons of Ohio, Tennessee, Baltimore, and Auburn, and only a fraction more than that in the prisons of Sing Sing, Wetherfield, Charleston, Massachusetts, and Vermont.

Respectfully,

W. DARRACH, M.D.

Philadelphia, Jan. 1, 1839. Physician, E. Penitentiary.

* N. B.—The per centage of the two last noted Prisons are greater than that of the Eastern Penitentiary; but the *actual* number of coloured prisoners in them is below comparison, and one of them is situated in the southern and slave section of our country.

(From the Lancet.)

WESTMINSTER OPHTHALMIC HOSPITAL.

OPERATIONS FOR CATARACT.

On Friday, the 3d of October, Mr. Guthrie performed several operations on the eye, chiefly for cataract. Of these, four cases are related in the following paragraphs. It is, of course, very important that any instrument employed in incising the eye should be perfectly keen and well set. In order to ascertain this fact Mr. Guthrie employs the following test:—A piece of fine kid-skin is to be penetrated by the knife to be used; if no sound be created in the incision, then the instrument is fit for service, but if the slightest noise be perceived, the instrument must be laid aside.

HARD LENTICULAR CATARACT.

Sept. 30, 1838. Thomas Smart, ætat. 61, a carpet-maker, constitution healthy, dark complexion, irides blue, says that ever since an inflammatory attack in his chest, from which he suffered a year and a half ago, his sight has gradually grown dim in the left eye. At first a light cloud seemed to envelope every object, which became gradually thickened, until about five weeks ago, when he could no longer distinguish any object. He has not suffered from any pain in or over his eye. He can see objects more perfectly towards evening than during the day, and better in an obscure than in a bright day. On examination the aspect of the eye was natural, the pupil regular, the iris of healthy colour, and active, following the motions of the opposite side, and acting equally well independently. There is a deep-seated opacity, of a darkish gray colour, presenting an uniform surface, on which the shadow of the iris can be distinctly seen, there being a visible space betwixt the opacity and the iris. He can see the shadow of the hand when moved before him. He can distinguish from whence the light proceeds in the room, and says that he sees much better after the belladonna drops have been applied. A dose of sulphate of magnesia given, and a mustard pediluvium applied.

On the 3d October the operation for extraction by the superior flap was performed. Nothing untoward occurred during its performance, beyond the removal of the superior pupillary edge of the iris, which flapped upon the knife. This case continued without a single bad symptom; he was placed in bed; nothing was done except the fulfilling of the ordinary custom of washing the eyelids carefully morning and evening, slightly depressing the under-lid to give exit to any accumulated tears. An occasional purgative was administered, and the eyes were kept wet with pads frequently irrigated.

16. The patient can see any object presented to him; the eye is free from inflammation, and the flap of the cornea is united. He is to get up. Low diet.

17. Complaining of slight intolerance of light; he was cupped on the temples, and eight ounces of blood extracted.

20. He is dismissed cured this day. The pupil is irregular, but the sight is restored. He can read large print without the aid of spectacles.

SOFT LENTICULAR CATARACT.

Sept. 30, 1838. Thomas Clowley, aged 33, a farmer, of healthy constitution and dark complexion; iris natural, and of a bluish-green colour. He dates his loss of vision five weeks ago, when he alleges he awoke one morning with a slightly uneasy sensation in the left eye; he asked a friend to look at it, who declared that a skin had grown over the eye's surface. On trying to use the organ he was astonished to find vision extinct, for he could scarce distinguish night from day, or tell the shadow of his hand. Since that period he is not aware of y change having occurred in his condition in respect to this organ.

When he was examined by Mr. Campbell, a large whitish-blue flocculent cata-

ract, like milk and water in colour, was discovered. This cataract is large, it bulges forward, and is in close opposition to the uvea, and it interferes, consequently, with the free motions of the iris. This last tunic, however, appears healthy, being regular, of natural colour, and only pretty active owing to the mechanical irritation formed by the diseased lens. The aspect of the eye is not particularly intelligent, and both organs are affected with an oscillatory motion, which the patient says has existed from his infancy. In childhood he was subject to fits. For a week previous to his discovery of the cataract, he was subject to violent pains in and over the affected eye, but since that time, he has not been so troubled, and his health is in all respects good.

Oct. 5. This cataract was broken up to-day, by introducing the needle through the sclerotica. The fragments were pushed into the anterior chamber to facilitate their absorption. Immediately after the operation, belladonna solution was dropped within the eyelids, and the extract rubbed over the brow. He was put to bed forthwith.

10, P. M. The patient complains of a darting pain in his eye; his pulse 96; heat of skin natural. Venesection to sixteen ounces; pads applied wet to the eyelids; belladonna smeared over the supercilia.

4. Slept well; feels quite easy this morning. To continue the belladonna.

5. Continues to do well; a black draught given; belladonna applied night and morning round the supercilia.

6. Doing well; sleeps soundly. He can distinguish the features of Mr. Campbell, the house-surgeon. He is permitted to rise and dress himself.

10. He has been cupped to-day to seven ounces, in consequence of his eye being slightly injected. To repeat the belladonna pigment.

26. Dismissed cured. Pupil regular; all the fragments of the lens absorbed; sight restored. To continue the belladonna, and to attend as an out-patient for some days. He can distinguish the hour on St. Martin's clock, at the distance of sixty yards.

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HARD LENTICULAR CATARACT.

Sept. 30, 1838. Mary Taylor, ætat. 60; has blue irides, but a dark complexion; she has always enjoyed good health, and is of an active disposition. She first perceived her eyes to fail about four years ago; the sight of her right eye gradually diminished, and two years ago the vision of it had entirely gone. At first a mist or veil covered every object, and this became denser and denser. The aspect of the eye laudable; the iris natural in colour, and active, and the pupil regular. She has a dirty yellowish-white cataract, which does not present an uniform appearance, but is lined as if the lens were divided into component segments; the lens approaches to the uvea, but is not in perfect apposition with it, nor does it, consequently, in the least interfere with the motions of the iris. She has not suffered from headachs, and has experienced no inconvenience from the presence of the cataract, except loss of sight. She can distinguish between night and day, and can see the shadow of her hands when raised in front of the eye, and says the belladonna drops greatly assist her vision. The power of the left eye is but feeble, and in it an incipient cataract can been detected. The bowels ordered to be kept open, and mustard pediluvia to be used nightly.

Oct. 3. The cataract was extracted by the superior flap. The premature loss of the aqueous humour caused the iris to come in contact with the knife, and a portion of this tunic was unavoidably amputated. The expulsion of the lens was preceded by a copious flow of vitreous humour, which continued to escape during the remainder of the operation, probably owing to the vitreous humour being in a disorganized state. After the extraction Mr. Guthrie closed the eyelids, and, for some minutes gently rubbed the eyeball with a piece of sponge, with the view of placing the pupil in the axis of the globe. The patient was put to bed, and the eye kept constantly wet with a lotion. Spoon diet.

4. The patient complains of no pain; she has passed a comfortable night; the pulse is good; the heat of skin natural; the pads are changed, and the underlids depressed and relieved of tears. Spoon diet.

4, P. M. She complains of a slight aching in the eye; she is bled, consequently, to twelve ounces.

5. She is doing well; the wet pads continued. Spoon diet.

6. She continues easy. Takes a dose of Epsom salts.

7. The patient feels quite comfortable; she can distinguish light.

10. She is permitted to sit up. She can discern objects.

13. A slight conjunctival injection is visible; she complains of a gritty sensation in the eye. *Six* leeches are applied to the inferior lid.

17. She has continued improving, but she complains to-day of an indisposition to the light. She was cupped to eight ounces.

20. She is well. The sight is restored; she can tell the hour on the dial of Mr. Campbell's small Geneva watch, without spectacles.

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SOFT LENTICULAR CATARACT.

Sept. 30, 1838. Mary Henry, 43 years old, a healthy brunette, with dark irides; has been conscious of a gradual failure of sight for the last *three* years, more particularly in the left eye, with which she can no longer distinguish any object. She cannot account in any way for this loss of vision. She has not been obliged to apply her eyes intently or constantly, and the progressive diminution of vision has been unaccompanied with pain. The eyes are intelligent; the irides of natural colour, and active; pupils regular; she perceives objects best in a dull day; the belladonna improves her sight very much. The cataracts in both eyes present a bluish-white appearance; each lens is deeply lined on its surface, and seems divided into segments. In the left eye this character is most distinct, and there seems a central nucleus, from which lines radiate to the circumference, forming triangular divisions of opaque lens; the resemblance to the spokes of a wheel will be obvious to the reader. A white opaque circle, about four lines in breadth, was perceptible round the circumference of the lens. The patient can see pretty well with the right eye, but with the left can only distinguish light from darkness.

The left cataract was broken up on the 3d of October, by puncturing the sclerotica. As many fragments as possible were pushed into the anterior chamber. A drop of belladonna inserted into the eye immediately after the operation, and the brow was painted with the extract. Put to bed.

10, P. M. She complains of a severe throbbing pain in the eye; the pulse is full and rapid (98); she is bled to sixteen ounces. After this she is relieved from pain. Fresh belladonna applied.

4. Severe pain has again occurred in the eye. The pulse is 100; she is blooded to 16 ounces, which relieves her; the belladonna re-applied.

10, P. M. The pain has returned; venesection to twelve ounces. Two grains of calomel, and a quarter of grain of opium to be taken every three hours. Belladonna and wet pads as before.

5. The patient feels very comfortable; she has passed a good night. Remedies continued.

8, P. M. Pain returned. Venesection to 16 ounces again.

6. The pain much diminished. Six leeches applied to the temple; the mouth is sore and swollen. The pills to be taken every six hours only. The belladonna paint continued.

7. The pain in the eye is trifling. The ptyalism is abundant. To repeat the leeches and belladonna, and to discontinue the mercury and opium.

8. The pain has gone. The ptyalism is severe. She cannot distinguish objects more clearly than before; one large piece of lens has settled exactly in the axis of vision.

10. She is doing well. The mouth is still sore.

14. She is allowed to rise and dress herself to-day.

23. She is dismissed this day, but desired to return in order to have the portion of cataract remaining unabsorbed again broken up.

(From the Lancet.)

ST. GEORGE'S HOSPITAL.

DISEASE OF THE LUMBAR VERTEBRÆ.

Nathaniel Jones, admitted 23d May, under Sir B. Brodie. Seven months previously he perceived a small tumour in the groin, near the femoral vessels, which has gradually increased, but without pain. After walking, the leg swells. He never had pain in the back, excepting when he took cold. The tumour is now large, but gives him no pain; he experiences no difficulty in making water; it is elastic, and pressure evidenced fluctuation in it. It was situated under Poupart's ligament, at the upper and anterior part of the thigh. Diagnosis—lumbar abscess. Sir Benjamin made the following observations on the case:—At first sight it appears like lumbar abscess, a term which you will find in many works, and many surgeons use it without knowing precisely what it is. Mr. Abernethy attended much to this disease, and formed very erroneous notions respecting it, and from him these errors have been handed down. He supposed these abscesses to be situated in the psoas muscle, and those which arose from disease in the vertebræ he considered to be exceptions to the general rule. I was looking, this morning, into Mr. Cooper's "Dictionary of Surgery," and the same opinion is there given; and I have conversed with many surgeons who hold the same views. It is very odd, if these opinions be correct, that abscess should form in the loins. True, it may form there as well as in the posterior mediastinum; but, in this part of the body, it very rarely occurs independently of disease in the osseous structures. I have examined many persons who have died of this disease, and I never found the vertebræ, or their connected textures, free from disease. I have notes of one abscess in the soft parts, coming forward above Poupart's ligament. After a time a lumbricus was discharged, I suppose from ulceration of the cœcum; but then this was not a lumbar abscess. It is true, that in dissection the original disease is overlooked, but if you remove the psoas muscle, you will find some little sinus, through which a probe may be passed, leading to the seat of disease, either in the vertebra or its cartilages. Cases occur sometimes in which the disease is seated in the dorsal vertebræ; the matter makes its way through the posterior mediastinum, between the crura of the diaphragm, along the psoas muscle, into the groin, but most commonly you find it presenting under the abdominal parietes. I have known a child carry about with it one of these abscesses as big as his head.

Caries of the vertebræ is best understood from dissecting those who die in the early stage of the disease, and if you look out for these cases you will find plenty of them. You will sometimes find, where the disease is not much advanced, the bones and cartilages softened only. In another case, you will find increased vascularity added to this; and, in a third instance, ulceration in all its stages, either in front of the bone or at the side. Sometimes you will find the bone hard, and the cartilages brown and very brittle, and ulceration will commence in them first and extend to the bone; or you may find the bone in a state of chronic inflammation, dark, and very vascular, with ulceration occurring at the union between the bone and cartilage. The lumbar vertebræ are most liable to caries, but angular projection most frequently arises from the dorsal vertebræ, as the spines are longer; and when the bodies are thrown forward from the weight of the body, the slightest tilting will throw the dorsal spinous processes upwards.

Ulceration of the bones and cartilages will go on to a great extent before matter forms, which will sometimes discharge itself at once. Generally, however, a very slight disease of bone will produce a large quantity of matter, and *vice versâ*. (Sir Benjamin illustrated this fact by the case of a lady who had a piece of the great trochanter, as large as a grain of wheat, diseased, and who yet, to use his own words, "had a pocket-full of matter in the thigh.") If the matter do not discharge early and easily, it will increase and collect rapidly. In this man's case, the abscess has come forward along the psoas muscle in front of the thigh. I have met with some of these lumbar abscesses that have made their way

through the abdominal ring, and along the spermatic cord. Sometimes they will appear behind, passing between the sacro-lumbalis muscle and spine of the ilium. In these cases it is very difficult, from their unusual situation, to tell precisely what they are, but wherever they appear they are one and the same disease, and spring from the same cause. It is very rare, indeed, to meet with a patient having lumbar abscess after the age of 30.

The symptoms show themselves very insidiously. Sometimes there is merely pain in the loins upon stooping, with slight hectic in the evening; sometimes there is no pain; whilst, in other cases, the pain is great, and, at last, an abscess forms. Where there is no pain, the disease is generally of a scrofulous character, and the vertebræ are found, after death, to be soft, vascular, and containing either a fluid or a cheesy deposit. Where there is pain, the bone is generally affected with chronic inflammation, and there is no very perceptible change of structure, at first, either in the bone or the cartilage.

The prognosis varies. In this man, the disease has progressed very rapidly. Sometimes it is very slow. A gentleman once consulted me respecting a pain in the loins from which he had suffered for ten years, and which eventually terminated in psoas abscess.

The treatment of lumbar abscess is the same as when abscess is met with in any other part of the body. I just make a free opening sufficient to let the matter run out easily, without squeezing or using pressure. If you make the opening a small one it is liable to be blocked up by flakes of coagulable lymph, and if you only make a moderate opening, you must use pressure to evacuate the matter, which is always injurious, causing hemorrhage or inflammation of the cyst, attended with considerable constitutional disturbance, which sometimes will come on in spite of all that you can do. After opening the abscess you should keep your patient perfectly quiet, in the recumbent posture, and the abscess will gradually contract into a mere sinus. The orifice will sometimes heal, and sometimes remain open; if the former, it will be necessary to open it again, but not with so large an aperture as at first; but I prefer it to remain open. (Sir B. Brodie here recapitulated the plan pursued by the late Mr. Abernethy, which it is not necessary that we should give.) The diseased parts should be kept in perfect repose, and the constitution should be strengthened by the patient residing at the sea-side. Where, from the early stage of the disease, the patient complains of much pain, mercury and sarsaparilla will be useful, and a caustic issue in the loins may be likewise very serviceable.

With regard to this case, Gentlemen, there is curvature of the lumbar vertebræ, but it has not the same appearance as these cases usually present; it is not a mere angular projection. This may turn out to be nothing uncommon; but still I am inclined to think that some difference will be found between this case and the usual ones. The tumour was supposed to be a lumbar abscess; but previous to Mr. Cutler opening it he punctured it with a needle, and serum only came out; this proved that there was no abscess, and yet I do not doubt that there is diseased bone. Yet serum in connection with this is, I confess, something new to me. I should not fear to puncture this if it were an abscess, but I should much fear to puncture a cyst containing serum only. Serum, you know, collects in synovial membranes, in the bursæ, and in the sheaths of the tendons, and it is possible that in this case, serum may have collected in the tendinous sheath of the psoas muscle. I have known several cases in which great constitutional disturbance followed the opening of a bursa. However this case may turn out, I know not; it may be lumbar abscess, or it may be something very different from it.

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Long Splints.—A man had been in the hospital for six weeks, with fracture of the femur, which had been put up in long splints. On Sir B. Brodie hearing of its perfect reunion, but that the knee-joint was stiff, he observed, that this stiffness was one of the great drawbacks of long splints. He had known knee-joints remain stiff for four months after the splints had been left off. The affected limb was put on an inclined plane, with a view to bend and stretch the stiffened parts.

Necrosis.—Erysipelas.—The boy, Gentlemen, in that bed, has a necrosed portion of the femur, near the ham; when last I saw him, the bone was not sufficiently loose to be removed, but it must be now, and I intended removing it to day, either all at once, or in two portions, whichever I might find most convenient, but the house-surgeon says there is erysipelas in the hospital, and, therefore, I defer the operation. The dead bone may not be loose enough yet; it cannot matter to the boy when the operation is performed, and at least, the sad chance of erysipelas may be avoided.

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Chronic Inflammation of the Synovial Membrane.—A woman, who has undergone the usual routine of treatment for this disease under Sir Benjamin, without much benefit, had her knee dressed in the manner, we believe, recommended by Mr. Scott, of Bromley. The knee was first enveloped in lint, covered with the stronger mercurial ointment. Over this, above and below the knee (and enveloping the joint everywhere except over the patella, where, in these cases, Sir Benjamin observed, that pressure should never be made), and over the anterior and posterior surfaces of the leg and thigh, some adhesive plaster, spread on leather straps, was evenly applied. Over this, a bandage was rolled, and another layer of the common adhesive strapping was applied over that. A fresh roller of bandage was then put around the strapping. All these having been carefully applied by Sir Benjamin, he observed that the case was one of chronic inflammation of the articulating surfaces, with thickened synovial fluid, and most likely, also, some cartilaginous ulceration. The great object was to keep the joint at perfect rest. Mercury, whether internally, or externally, was always of use in diseases of the joints, and the strapping and bandaging would keep the joint steady. The patient was told that she might get up and walk about.

NOTES OF CASES IN SURGERY OCCURRING IN THE PARISIAN HOSPITALS.*

LA CHARITE.

FRACTURE OF THE CLAVICLE,—OUTER PORTION THE HIGHER.

June 7. A man was brought to the hospital; he had fallen upon his shoulders in the street, and broken his right clavicle, a little beyond the centre. What is curious in the case is, that instead of the humeral fragment being depressed, it is higher than the sternal portion; the fracture is oblique and loose. Put up in the immoveable apparatus.

11. Going on well; do not hear the crepitation, as before, on coughing.

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SUBCUTANEOUS ABSCESS OF THE THIGH.

Gostrois, aged 28, a baker, was admitted May 16, 1835, on account of a large abscess occupying the front and inner side of the left thigh, immediately over the middle femoral region. He can assign no cause for its production; enjoys good health; is liable to change of temperature, and to make great muscular efforts in following his business. Has experienced pain in this part for nearly a month, when there appeared a long and narrow hard band, painful on pressure, in the course of the saphena vein. He has applied leeches and poultices to it. The long and hardened cord disappeared, and a large and broad abscess came in its stead. The skin was hot, red, and painful. There was empâtement of the coverings of the abscess, and also fluctuation,—two signs which together are, in Velpeau's opinion, characteristic of phlegmonous abscess. Velpeau considers the case as one of external phlebitis, exciting suppuration, inflammation

* The Lancet.

of the layer of loose cellular tissue between the fascia lata and the superficial fascia; but as he was not absolutely certain of this being the case, and to avoid all risks of injuring the great vessels, he determined to open the abscess, not in the usual mode of making a puncture, but by cutting down upon it, "couche par couche." A large quantity of dirty-looking pus escaped, mixed with coagula of blood. He was now convinced that the abscess was above the fascia. To have an emollient poultice applied.

May 19. Very much better.

June 1. Discharged cured.

TUMOUR OF THE LEFT SPERMATIC CORD.

A youth, 18 years of age, was admitted May 16. There is a tumour occupying the left spermatic cord which, he says, has been visible only during the last eight days. It is now of the size of a large hen's egg. It is a cyst, but as to its contents Velpeau can only guess. It may be serum, but it is not transparent to the transmitted light of a candle. It may be an abscess, but then there are no collateral signs of such an affection. It is situated about midway between the external abdominal ring and the testicle, and is unconnected with either. The patient is in good health in all other respects.

22. To-day Velpeau made a puncture into the tumour with a lancet; a quantity of clear and thin aqueous fluid issued. Compresses of Goulard water.

24. The tumour is forming again; injected to-day with tincture of iodine.

31. There is a large, doughy, heavy tumour in the situation of the sac of the hydrocele.

June 8. Discharged cured. There is still a considerable hardness in the situation of the hydrocele.

CYST IN THE BREAST OF A FEMALE.

May 20, 1838. M. Velpeau discharged, cured, a young woman of twenty-five years of age, from his wards. She had been there during the last five weeks on account of a small tumour occupying the upper part of the left mammary gland. Before operating he considered that its nature was fibrinous, and probably originating in an extravasation of blood, but afterwards it was found to be an osseous cyst, full of a gelatinous fluid. The wound was longitudinal, and in the same course as the fibres of the great pectoral muscle. Velpeau considered the case as rather rare, and that there was no reason to expect a return of the disease.

DOCTOR TOGNO'S LETTER, AND ACCOMPANYING DOCUMENTS.

Philadelphia, *March 25th*, 1839.

To the Editor of the Eclectic Journal of Medicine.

Sir,—I have just read Dr. Mütter's lecture on "club-foot," and I was surprised to find that this gentleman has "*unceremoniously*" published in it a representation of an apparatus for which he claims, to be sure, "*no great merit*," but which he gives to the world as being planned by himself. This machine was constructed for him by Mr. Rorer, not only on the same principle as that which is employed in mine, but with some of the various improvements that many years of close attention to this branch of surgery *have enabled me to make*.

I challenge Dr. Mütter to prove that either Scarpa or Delpech ever used an apparatus like mine—it is true, and I am proud to acknowledge it, that in the construction of my various instruments for Orthopedic purposes, I am guided by the principles that Scarpa and Delpech have promulgated on Orthopedic Surgery. But although I acknowledge having adopted their *principles* in the treatment of these cases, as well as the leading ideas in the manner of construct-

ing Orthopedic machines, still the one given to the world by Dr. Mütter in his lecture, at pages 44 and 45, as being a combination of his own from those surgeons, is, to all intent and purposes, my own apparatus for the cure of "Club-foot," which Dr. Mütter, with *parental tenderness*, introduced first to his *hearers, and then to his readers* as his *own*." When I accidentally saw this machine at Mr. Rorer's, a representation of which is now given in the lecture, I immediately wrote the following note to Dr. Mütter :—

No. I.

"*Dr. Mütter.* PHILADELPHIA, *December* 24, 1838.

"SIR,—I observed the other day that Mr. Rorer, Surgical instrument-maker, in north Sixth-street, above Market, who fabricates my *various* Orthopedic machines, has made for *your patients*, by your order, two machines, the construction and principle of action of which are precisely the same as those planned by myself.

"I trouble you simply to ascertain whether you consider them as being like those that I claim as being of my invention, or whether you have imagined that you could claim the merit of having planned them ?

"As you never communicated to me your intention of patronising my mental property, although I met you at Mr. Rorer's not many days ago, it is but right and just that I should now clearly understand to what motive I must ascribe the unlooked for honour you have done me by adopting my invention.

"I remain, yours, respectfully,

"J. TOGNO, 92 Locust-street."

More than a week having elapsed, and Dr Mütter not having answered my note, I forwarded to him the following :

No. II.

"*Dr. Mütter.* PHILADELPHIA, *January 3d*, 1839.

"SIR,—I wrote to you on the 24th ult. on the subject of my Orthopedic invention, and I understood by my messenger that my letter was delivered into your hands, and that you informed him you would attend to it. This you have not done, I presume, from its having escaped your recollection, and I therefore again request a reply. The matter may be unimportant in your view, but it is not so in that of Yours, respectfully,

"JOS. TOGNO."

At last this answer was received.

No. III.

"*Dr. Togno.* PHILADELPHIA, *January 5th*, 1839.

"SIR,—Indisposition along with business of importance has prevented my noticing your favour of the 24th December ere this. I now hasten to comply with the request therein contained relative to your "*mental property*" ! so *unceremoniously* employed in *two* cases of mine !

"I can only say that my object in ordering the instruments to which you refer, was to try their efficacy in a peculiar defect, and had they been employed you should have received all credit for the principle of their construction. It was certainly not my intention to lay claim to any "*mental*" attributes possessed by them.

"I am somewhat surprised, however, to find a surgeon claiming *exclusive right* to use his own contrivance, having always considered every instrument invented by a *regularly educated* physician or surgeon as *public property*. I regret to find myself at variance *on this point*, with one so eminently distinguished for surgical knowledge as Dr. Togno. Respectfully, yours, &c.

"THOS. D. MÜTTER."

Dr Mütter, in this letter, was not satisfied with simply disclaiming to be the inventor of these machines ; but, it will be seen, that he was pleased to *insinuate*

in the *most uncalled for manner*, that I claimed, besides the mental property of the contrivance, the privilege of using the instrument "*exclusively*." I, therefore, thought it my duty to *enlighten* him upon this subject, and I sent him the following note:

No. IV.

"*To Dr. Mütter.* PHILADELPHIA, *7th January*, 1839.

"SIR,—I have received your letter of yesterday in reply to mine of the 24th of December and 3d of January.

"You express your surprise to find a surgeon claiming exclusive right to use his own invention; this, *if it were done*, would not be more *unreasonable* or *unprofessional* than the "*unceremonious*" use of that invention by a fellow-practitioner, as though it were his own. I beg leave, however, to assure *you* that your surprise is *entirely* gratuitous upon the present occasion, and uncalled for by any remark of mine. I never claimed any such right as that which you so disingeniously suggest; but merely desired to ascertain from *you* (which I have *at last* succeeded in doing) whether *you* claimed to be the inventor, or merely adopted my invention of the instrument in question. *You* or any other regular physician will be at liberty to use *any improvement of mine;* but at the same time I am *not* disposed to part with the credit of the authorship and the use together to any one, however high his surgical pretensions may be, Yours,

"J. TOGNO."

It will be seen that Dr. Mütter, in his letter to me of January 5th, 1839, disclaims any authorship in the construction of said machine, for he distinctly says, "It was certainly not my intention to lay claim to any mental attributes possessed by them;" but "you (Dr. Togno) should have received all credit for the principle of the invention." Still, in his lecture, while speaking of this very instrument at page 43, forgetting his avowal to me, and the full amount of credit that he had professed his willingness to grant me, the Doctor remarks; "I wish you to understand, gentlemen, that I claim no great merit for this apparatus." By this expression one would be led to suppose that Dr. M. claims at least *some merit*, however small the share, which is altogether at variance with his disclaiming note to me.

The points of resemblance that may exist between my machines and those of Scarpa or Delpech will be fully indicated by me in the work which I am preparing for your Medical Library; but Dr. Mütter cannot be allowed by my silence to ascribe to himself what does not belong to him, under the plea that my machine has a general resemblance as "*to the principle of action*" with those of Scarpa and Delpech, nor shall he, with my consent, assume the authorship of my apparatus, as the result of his *combining faculties*.

Acting upon the general principle, so honorable to the medical profession, that no physician should take a patent for any invention or improvement, I have made no secret to my professional brethren of the construction of my apparatus, and the principles which guided me in my use of it. I therefore, so far back as 1833, exhibited before the College of Physicians a model of my invention, and then, and there, explained its principles and use, together with its beneficial employment in the cure of "Club-foot."

Before and since that period many distinguished medical men have witnessed and acknowledged the advantages resulting from the judicious use of my apparatus, *when properly modified as to power and means, to suit each particular case.*

Yours, respectfully,

JOS. TOGNO.

BIBLIOGRAPHY.

Outlines of the Institutes of Medicine. Founded on the Philosophy of the Human Economy in Health and Disease. In Three Parts. By Joseph Gallup, M.D., Author of Sketches of Epidemic Diseases in the State of Vermont; late Professor of Theory and Practice in the Vermont Academy of Medicine and the Clinical School of Medicine; Ex-President of the Vermont Medical Society, &c., &c. 2 Vols. 8vo. Pp. 416 & 460.

Doctor Gallup, now in the seventieth year of his age, after having spent a period longer than the common life of man in the exercise and teaching of medicine, sends forth the results of his meditations, readings, and experience in the work, the title of which we have just given. Of its merits and distinctive character it is not easy for us to speak within the limits of a necessarily short notice. We are safe, however, in expressing our favourable opinion of the spirit of candour and liberality manifested by the writer in his criticisms and analyses of the doctrines of his predecessors and contemporaries; and of the general clearness of his propositions and commentaries. To many it will be a matter of agreeable surprise to discover, that the venerable author displays a preference for many of the views, and an acquaintance with the most important facts, of the medicine of the day—particularly in basing it upon the doctrine of the tissues.

From a notice of the organic composition of the body, Dr. Gallup proceeds to that of the *tissues*, and the *gradations* of *vitality*. With a description of *organic tissues* he combines an account of their functions, so as to give the physiological proems to the pathology, which is the subject of the second part of his work. Therapeutics constitutes the last and third division.

In so summary an account of the different organic systems and their functions, the reader must not expect more than an announcement of some of the more prominent facts and phenomena, with a passing allusion to the writers who have given us more copious descriptions and disquisitions on the matters in question. It were more easy to indulge in minute criticism, by pointing out deficiencies here and obscurities there, than to substitute, within the same compass, a clearer and more definite view of the several subjects of which Doctor Gallup has treated in his physiological division.

The value of the textural basis adopted in the first part is rendered more evident by its harmony with the second, which consists of *pathological notices, or a consideration of the etiology and character of disordered action generally.* In this division the author adverts, with point and method, to the proportionate share of disease in which the solids and fluids participate, the diathesis, seats of disease, morbid habit, sthenia and asthenia, morbid locations—with, more especially, reference to the altered states of the tissues. Under the heads of *remote* and *exciting causes*, he passes in review the influences to which the human body is subjected in the production of disease, including, among the former or remote causes, *atmospherical contaminations* of various kinds, *climate*, *idiosyncrasies*, *aliment*, *exercise*, *clothing*, *alcohol and other narcotics and the mineral poisons*, *intense thought.* Under the latter, or exciting causes, he enumerates *heat* and *cold*, with *their alternations*, *fatigue*, *watching*, *and surfeiting*, *wounds*, *contusions*, *burns*, *and other lesions*, *emotions*, *and passions*, *diurnal and sol-lunar influences.*

Pathology is continued in the second volume, under the head of *semeiotice.*

The third division, that on Therapeutics, opens with *outlines of nosography*, or an arrangement of *constitutional diseases according to their most common tissual seats.* If we have forborne from either a minute or critical exposition of the former parts of Dr. Gallup's work, it is still more necessary for us to do the like in reference to the nosographical outlines. An essay might be written on the abstract question itself, to say nothing of the remarks which might be elicited by the classification before us. Were we to affirm, that more credit must be awarded to Dr. Gallup, for the correctness of his initial views, than of the method by which

they are carried out, we should only be repeating a remark applicable to most authors of systems.

In the *Outlines of Therapeutics* we meet with much valuable advice, couched in a terse, though occasionally a rugged style. On blood-letting and the use of antimony in fevers, for example, the author expresses himself like a man of experience and observation. Not less discriminating are his remarks on blisters and alteratives. Of the latter, he says: "they commonly consist of contraries, one for this symptom, and another for that; and aside from being irksome and oppressive, they render it impossible to distinguish or ascertain whether any particular medicine has a beneficial or injurious effect." Dr. Gallup gives a somewhat greater extension to his remarks on *phthisis pulmonalis* than to those on other diseases. His opinions on some of the most interesting points, in the cause, nature, and treatment of this dread malady, are worthy of great respect, if not of unlimited adoption. They certainly furnish not a few suggestions of value to the thoughtful student and the observing physician. *Apropos* of what he conceives to be some heresies of Laennec, respecting the origin of tubercles, the author makes the following remarks on the undue importance attached to the use of the stethoscope in the diagnosis of consumption: "We wish not to depreciate the merit due to this instrument; yet we insist that the student has been wrongly directed, in that the belief is inculcated, of tubercles being the primary state of disease of the whole system, and of the lungs in particular, which is capable of being discovered, and often removed before the stethoscope can elicit any signs of internal changes. It invites apathy, and derelictions of duty, in waiting for the manifest results; leads to supineness and the loss of lives, intrusted to the charge of pretended science. A physician that cannot detect the early progress of phthisis, in its incipient state by the physiological tokens, is not deserving the charge of his patient." Perhaps more force would have been imparted by this opinion, if the author had indicated the signs furnished by the stethoscope in the several morbid states of the lungs and heart. Cases are given illustrative of the views and practice of Dr. Gallup in pulmonary consumption. The free use of the lancet, and the daily use of the warm bath, are the remedies on which he seems to place great reliance. He eulogises iodine as promising to be the most useful tonic in the exhausted stage of phthisis, and tells us of his own satisfaction from its use. Of narcotics, generally, in this disease, the author speaks in the following emphatic and, as we believe, just strain: "We freely declare, if compelled to use laudanum, Dover's powder, opiate cordials, or cough drops, &c., we would never attempt a radical cure of phthisis pulmonalis in any of its varieties. In the last stage of a forlorn case, they are more justifiable, in small doses; and yet a previous well conducted case will hardly need them, as the calm composure of the downward way is commonly disturbed by their use. In their omission, there is no running the risk of exciting a repulsive delirium, or a forbidding lethargy." On regimen and exercise the remarks, though brief, are pertinent and forcible.

Not only does the work of Doctor Gallup abound in valuable aphorisms and facts for immediate guidance, but, also, in suggestions of moment which, by attention and thought, may be matured into useful practises.

Alike clear of an affectation of the reconditeness of mere antiquity, and of the last fashions of the European schools, the author shows himself to be an eclectic, who reasons on, and explains the wisdom of his choice. Amidst many positive merits, we care not to point out occasional omissions of matter as well as defects of style which, after all, interpose little difficulty in the way of our understanding the author's meaning and reach of argument.

We shall conclude with a few words of advice to the publishers of these volumes, and they will apply to those of N. England generally. Those gentlemen seem not unfrequently to forget that they are booksellers as well as publishers; and that in the former capacity it is not enough for them to bring out a work for copies to be placed on their own shelves, but that it ought to be distributed to the chief cities of the union. Great as is the thirst of their immediate fellow-citizens after knowledge, they ought to be aware that a demand for good books is not confined to the Yankee nation; but is participated in by the people, west of the Hudson

and south of the Delaware, the Potomac and the Ohio. But few readers will send far for even good books; they must be made accessible by being placed on the shelves and counters of the chief booksellers of the United States. Now, in this very obvious duty, the members of the trade in Boston and other parts of New England are wanting. They publish many excellent books, but they do not make adequate arrangements with their brethren, elsewhere, for their distribution and sale. Months, nay years, will sometimes elapse, before a work of undoubted merit is known in the southern market, and accessible to a southern reader. We use the term southern in reference to our own position, for instance, towards Boston. It may be alleged that the fault is as much that of the booksellers of New York and Philadelphia as of those of Boston. Our reply to this is; that the publishers of the two former cities contrive to send, either according to order or exchange, or after sale, their books to all parts, whilst those of the last mentioned city contrive to keep works of intrinsic merit, and of no small pecuniary cost, on their own shelves, or in their stores, as if for the exclusive use and benefit of their own immediate fellow-citizens. Even the privileged class of editors are left in ignorance of the nature of a work, if not of its publication, by this supineness of the eastern publisher; although nothing can be clearer than the fact, that if he wishes to have his book noticed, he must send copies to those within whose province this duty falls; but, who have not the time nor the means to be chasing after every literary novelty.

Transactions of the Medical Society of the State of New York. Vol. IV. Part II. Albany. From p. 57 to 176, and Appendix, pp. 56.

We have had occasion, in former times, to mention the praiseworthy manifestations of medical literature and ethics in the Transactions of the New York State Medical Society. The present part contains several papers of various degrees of interest; most of them, however, being addresses, the first by the President, Doctor Laurens Hull, and the four following ones before the Tompkins County Medical Society, by Doctors Church and Page. The two concluding articles are on Suicide and its increase at the present day—translated from the German of Professor Casper, by Horace B. Webster, and on the Statistics of Medical Colleges of the United States, by T. Romeyn Beck, M.D.

However useful may be the plan of parts of Transactions at irregular intervals, we cannot see any good from a portion of a paper, appearing in one, and its completion in another issue of the Transactions. The part before us has for its first two pages the conclusion of Statistics of the Blind; and the last article on the Statistics of Medical Colleges, is unfinished.

Quackery would seem to be an evil as prevalent and as sorely felt in New York as in Pennsylvania. The following extracts may serve to quicken the attention of the thoughtless on this matter, though they do not furnish any new ideas. Dr. Hull says:

"There is one argument which we can urge without the slightest danger of being charged with interested motives; our profession is a liberal profession, it has for its object the relief of suffering humanity, and however some men may pervert it, it is nevertheless true that by far the largest part of its remuneration is found in the *luxury of doing good.* In such a vocation there is no room for secresy, and to hold a nostrum or secret remedy is a disgrace to any man who calls himself a physician, for by this single practice, he degrades the character which is its essential ingredient—he converts, so far as he can, his profession into a trade, and tells the world that his object is simply to make money, without regard to consequences."

Dr. Church, in his address on the same subject, gives a hint which may, we think, be profitably applied to most of us who receive students into our offices.

"I have sometimes thought physicians were influenced by very improper

motives in receiving ignorant and idle young men into their offices as students, partly from the idea that it adds consequence to them to be surrounded by a number of pupils, however unpromising, and that it adds much to their influence and practice by attaching to them the connexions and friends of such young men; for the purpose also of doing the drudgery of the practice, especially that which is not likely to prove lucrative, and which still they wish to retain for the purpose of keeping up a great show of business, which is of some importance: and, finally, of establishing them ultimately in their neighbourhood, for the purpose of extending their reputation abroad, and adding a more lucrative business from their frequent calls for counsel. Whatever the motive may be, the encouragement of such uneducated young men generally has a most mischievous influence, and I believe it is a more fruitful source of quackery than all others.

"For this reason then, quackery will undoubtedly thrive to a greater or less extent, so long as men love to have this kind of deception practised upon them as well as they do at present. I am decidedly of opinion, that the surest way to lessen the evil is to correct abuses in the profession itself. Therefore, instead of vainly attempting to crush it by legislating directly against this set of men, let us try to elevate the profession so far above them that the world may see our superiority in a stronger light."

CERTIFICATES.

Connected with the subject of the preceding extracts on Quackery, are the following remarks of the London Medical Gazette on the undue and, at times, criminal facility of medical men granting testimonials to any and every applicant:

"A madhouse, a solution of copaiba, two sorts of clyster-pipes, certain miraculous spectacles, and a universal ointment, are among the sundries which we have seen violently puffed off, with the appended testimony of medical men—aye, and distinguished medical men, too. It is strange, indeed, to see some of the first names in our profession tacked to quack advertisements, and not to hear that they are forged. In certain instances the letters written have been garbled, the pill or spectacle monger leaving out some of the most essential words, and thereby heightening the praise to any required amount. The men of salves and eye-glasses may have learned this art from book-makers, who practise it with great ingenuity. Thus let us suppose that a reviewer had said, 'in spite of numerous errors, Mr. Bolus's treatise on capsicum may be made *useful to students* in a future edition,' your sharp-eyed selector picks out the three words which we have put in Italics, and prints them as the reviewer's opinion. But in the quackeries we have just before mentioned, the opportunity of garbling ought not to be afforded; no letter should be written to a professed quack, or if any accident made this absolutely necessary, it should not contain a word about his nostrums. A Frenchman once wrote a *Réponse* AU SILENCE *de M. Vaugelas;* but few quacks would have the ingenuity to make a puff out of nothing. As for the things themselves, the unwearied zeal with which they are advertised is enough to make any reasonable person doubt their virtues. 'Do not cry roast beef,' said an old saw; to which we would add as a new commentary, 'You need not.' Very little proclamation of its merits will suffice for a really good invention, while a thousand a year has sometimes been spent to keep up the bad eminence of a nostrum. The quack medicine sinks into oblivion as soon as newspaper aid is withdrawn, while a useful discovery

"'Volitat vivu, per ora virûm.'"

Do the preceding advice and strictures apply to medical men on this side of the Atlantic? We shall not press the question just now, for the sake of the nerves of quiet persons who might be startled at the thundering sound from hundreds of angry voices in the affirmative.

MR. COMBE'S LECTURES.

We stated in our February number, that Mr. Combe's lectures were drawing to a close. The average number of his auditors in the lecture-room of the Phi-

ladelphia Museum, during his first course, was five hundred and thirty-seven persons. The proportion of ladies increased to the very last, and was probably about a fourth of the class.

The following, which we extract from one of the daily papers of this city wil show the light in which the lectures of Mr. Combe were regarded by his large, intelligent, and learned auditory.

"At a meeting of the members of the class who attended the course of lectures on Phrenology by Mr. Combe, Mr. Benjamin W. Richards was called to the chair, and Mr. Chas. Picot made Secretary; it was, on the motion of Dr. Bell,

"Resolved, That they have listened with great pleasure and mental profit to the clear and comprehensive views of human nature, and to the elucidations of individual character, set forth by Mr. Combe in his lectures just completed; and that in these, they recognise many important suggestions for the improvement of education and jurisprudence, and the consequent increase of the happiness of mankind.

"Resolved, That a committee be appointed to convey to Mr. Combe the preceding resolution, and a wish, on the part of this meeting, that he will be induced to repeat his course of lectures on Phrenology in this city.

"The following gentlemen were appointed a committee under this resolution, viz:—

"Mr. Nicholas Biddle, Dr. Hartshorne, Mr. Benjamin W. Richards, Dr. Wm. Gibson, Dr. Thos. Harris, Mr. A. Dallas Bache, Mr. Rembrant Peale, Mr. Chas. Picot, and Dr. Bell.

"*Philadelphia, February 8th*, 1839."

To the majority of the citizens of the United States, Mr. Biddle, chairman of the above named committee, is known as the able and successful financier. In this community those not embarked in commerce, are taught to esteem him as the accomplished gentleman and scholar, with whom our sympathies are stronger and more pleasant than they could ever be for the mere president of a bank, whether of the United States or of England—no matter how vast its capital or great his influence. Mr. Biddle has other claims on phrenologists from the fact of his being the first citizen of Philadelphia, if not of the United States, who became acquainted with Doctor Gall, as early as the year 1808, and listened to an exposition of the new doctrine from the lips of its distinguished founder. On that occasion he received from Dr. Gall a skull, with the organs, as far as their functions had then been discovered, marked out on it. This skull is a curious document in phrenological history, and it serves, by the spaces left without being marked on it, to refute the vulgar notion that the organs were mapped out at once after a preconceived hypothesis. It has been presented to Mr. Combe by Mr. Biddle.

The following note was written by the chairman of the committee to Mr. Combe:

"*Philadelphia, February 9th*, 1839.

"Dear Sir,—I perform a very agreeable duty in communicating to you the resolutions adopted at the close of your lectures on the 8th instant, in which the members of your class express at once their satisfaction at the benefits derived from your instructions, and the hope that you may be induced to continue them. To these sentiments in which I cordially concur, I beg leave to add the assurance of the personal respect and regard of Yours, very truly,

George Combe, Esq. "N. BIDDLE.

"*Marshall House, Philad.*"

To this Mr. Combe replied, as follows:

"*Marshall House, Philad., Feb. 11th*, 1839.

"Dear Sir,—I have received your letter, dated the 9th of February, transmitting to me the resolutions adopted at the close of my lectures on the 8th instant. I beg leave through you to express the very high gratification which the approval of so estimable a body of the citizens of Philadelphia, as did me the honour to attend my lectures, confers on me, and the gratitude which I feel for their kindness. Their approval will prove a strong recommendation to other cities, and its

influence will extend beneficially to Europe. To yourself in particular, I feel myself under peculiar obligations, which I shall long remember with pleasure and regard.

"I am, dear Sir, your obedient and obliged Serv't.

"NICHOLAS BIDDLE, Esq. GEO. COMBE."

The wish expressed by the class in the last resolution, viz: that Mr. Combe would be induced to repeat his course of Lectures on Phrenology in this city, has been complied with. Mr. Combe began his second course on the evening of the 25th February, and terminated it on the 6th April. The number of his class on this occasion averaged, we believe, about three hundred and sixty. On the last evening there were five hundred and forty persons present. The following account of the proceedings at this last meeting, after the close of the lecture, is expressive of the favourable opinions of the class:

"At the close of Mr. Geo. Combe's second Course of Lectures on Phrenology, in the Hall of the Musical Fund, April 6, 1839, on motion, Professor Samuel B. Wylie was called to the chair, and George M'Clellan, M.D., appointed Secretary.

"The Rev. Chairman addressed the meeting on the propriety of making some public expression of the satisfaction, which the very numerous class in attendance had derived from the lectures.

"On motion, the following resolutions, offered by Mr. Thos. Fisher, were unanimously adopted:

"Resolved, That this class have listened with great interest to the able and highly instructive exposition of Phrenology, which Mr. Combe has offered us.

"Resolved, That whatever may have been our previous acquaintance with the subject, the lectures of Mr. Combe have impressed us with much respect for its practical importance, and with the kindliest feelings for the learned lecturer.

"Resolved, That Phrenology is recognized and commended as a science founded in Nature, by a large portion of the most distinguished anatomists on both sides of the Atlantic, and that we believe it to be the only adequate illustration of the existing, wonderfully various, manifestations of the human mind.

"Resolved, That it will afford us pleasure, and that we believe it will be highly acceptable to this community, that Mr. Combe should make it consistent with his arrangements in other cities, to give during next winter another course in Philadelphia.

"Resolved, That a committee of seven gentlemen be appointed to communicate to Mr. Combe a copy of these resolutions.

"The following gentlemen were accordingly appointed—Samuel B. Wylie, D.D., Samuel George Morton, M.D., George M'Clellan, M.D., Charles S. Coxe, Esq., Joseph Hartshorne, M.D., Thomas Gilpin, Esq., Thomas Fisher."

The committee, in a body, headed by the Rev. Doctor Wylie, Vice Provost of the University of Pennsylvania, and Professor of the Hebrew, Greek, and Latin languages in that institution, presented the above resolutions to Mr. Combe in person. Of the professional and scientific merits of many of the gentlemen, composing the committees, of the two classes, it is not necessary for us to speak in this place. Among them we find the professors of surgery in the University and the Jefferson Medical College. But there is yet a name which may be cited with confidence, in reply to those who would class phrenologists among men of a purely speculative mind and ardent temperament. It is that of Doctor Hartshorne, a gentleman who has for a long series of years been assiduously devoted to the practice of his profession, and whose mind is eminently practical and cautious. Doctor Hartshorne was on both committees, having been a regular attendant on the two courses of lectures by Mr. Combe.

In consequence of an invitation to that effect, from a number of gentlemen, in that city, Mr. Combe began a second course of lectures in New York, on the 13th April. He will, we understand, after the completion of these lectures, make the summer tour to the Lakes and Canada, and retire during the remainder of the hot weather in some quiet spot in New England. By the fall he will be again prepared to accede to invitations from the philosophical portion of the inhabitants of the different cities who shall be desirous of hearing his defence and exposition of Phrenology. We may mention here, that in no place out of Edinburgh has Mr. Combe begun a course of lectures except by the invitation of a

competent number of persons who have made the requisite preliminary arrange ments for his course. He has not the time nor, we may add, is it in unison with his tastes, or his sense of the proper dignity of his favourite science, to travel about and drum up, by personal exertions and applications, a class of auditors. We are the more free to mention this fact, in order to prevent misconception and a complaint of neglect in some places which have not, or may not be visited, by Mr. Combe during his abode in the United States. His present plan is, we learn, to remain in this country until the summer of 1840.

University of Pennsylvania. Catalogue of the Trustees, Officers, and Medical Class. Session 1838--39. Philadelphia: February 1, 1839.

Catalogue of Medical Graduates of the University of Pennsylvania. April 5th, 1839.

The number of students in attendance on the medical classes of the University, during the past winter, was *four hundred and two.* We give the numbers in words, in order to prevent the possibility of a typographical error such as that committed in our contemporary, the American Medical Intelligencer, which reports 202 in place of 402. The error was corrected in pencil in some of the copies of city readers; but we find it repeated in the Boston Medical and Surgical Journal, as it perhaps may be by other reporters of medical intelligence, not apprised of the mistake.

From the second catalogue, as above, we learn that, at a public commencement, held April 5th, 1839, in the Musical Fund Hall, Locust-street, the degree of Doctor of Medicine was conferred by the Rev. Provost, John Ludlow, D.D., upon 146 gentlemen, as it had been on, 13th July, 1838, on 12 others, making the whole number of graduates reported in the catalogue of this spring *one hundred and fifty-eight.*

Annual Announcement of the Medical Department of Transylvania University, containing the Circular for the present Year—the Catalogue of Pupils of Session, 1838--39, *and the List of Graduates at the late Commencement.*

From the above announcement, we learn that two hundred and eleven students constituted the Medical Class of Transylvania University during last winter.

At a public commencement, held in the chapel of Morrison College, on Monday, the 11th March, 1839, the degree of Medicine was conferred on fifty-one gentlemen, and an honorary degree on three practitioners of medicine, in Kentucky.

Lexington, determined not to be outdone by Louisville in liberality towards its medical school, has appropriated *forty-five thousand dollars* for the erection of a new Medical Hall, a Library, and an Infirmary. Two of the professors, Doctors Peter and Bush, have quite recently sailed for Europe with a view to the purchase of books, apparatus, &c. Again there is a certificate by students, to the number of 106, attending the dissecting classes, to show that their wants for private dissection have been immediately and amply supplied.

Catalogue of the Officers and Students of the Medical Institute of the City of Louisville, January 1st, 1839.

The students in attendance on the Louisville School, during the winter of 1838–9, were a hundred and twenty in number. The class of the preceding session numbered eighty. The new building for the Institute "contains a large Hall; three spacious, well-lighted and comfortable Lecture-rooms; a very large Library-room; a museum-room; private rooms for the Faculty; six distinct dissecting-apartments; a chemical Laboratory; extensive galleries for the arrangement of different cabinets; Janitor's rooms, &c., &c."

Graduates of Jefferson Medical College.—On the 5th of March, 1839, the degree of Doctor of Medicine was conferred on eighty-eight gentlemen. The number of matriculates in attendance, during the past season, has not, we believe, been made public.

THE ECLECTIC

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ON COUNTER-IRRITATION.*

It has been remarked by M. Louis "that we do not know the therapeutic value of blisters, and that it ought to be studied with the assistance of numerous and well-established facts, absolutely as if we knew nothing regarding them."† Till a recent period this observation might, in this country at least, be extended with a considerable degree of truth beyond the one form of counter-irritation to which it was applied; for, although the expression was in frequent use, though the practice was one most familiar to surgeons and physicians, and various means of accomplishing it constituted important parts of the treatment adopted in the majority of cases with which medical works abounded, we could scarcely be considered as possessing in our language a treatise specially dedicated to this important branch of therapeutics. From 1754, the period of the publication of Dr. Giles Watt's work on Derivation and Revulsion, a work now become antiquated, to 1822, when Dr. Jenner published his letter to Dr. Parry on Artificial Eruptions, no British book on this subject of any mark or likelihood appeared, whilst from the presses of Germany, Italy, and especially of France, the subject received that ample attention which its importance merited. As a consequence, apparently, of this superior attention, we have remarked that continental practitioners employ a greater variety of remedies of this class, and repose more confidence on them, than those of this country.

These observations are calculated to show that the British works at the head of this article are by no means superfluities in our literature, if they are really fitted to supply the deficiency which we have seen to exist. Before, however, proceeding to examine into this point, it appears incumbent upon us to give such a general view of the subject as may place the reader himself in a position to judge of the respective merits of these works, and likewise to clear it from certain sources of confusion and error, which a careful perusal of them, and, in the deficiency of our own literature, of various foreign publications, has shown to exist.

I. The terms employed, it will be observed, in this country and on the continent, to express the action produced by these remedies, and the remedies themselves, are different. In England we now speak of counter-irritation and counter-irritants; Dr. Epps's expression is counter-action: abroad, the terms are derivation and derivatives, and revulsion and revulsives, which same terms were anciently used in our own country. It is a reasonable question whether terms

* 1. Traite theorique et pratique de la Derivation contre les Affections les plus communes en general, telle que la Plethore, l'Inflammation, l'Hemorrhagie, &c., &c. Par L. F. Gondret, Docteur en Medecine de la Faculte de Paris, &c.—Paris, 1837. 8vo. pp. 328.

Theoretical and Practical Treatise on Derivation as a Remedy for some of the most common Affections, such as Plethora, Inflammation, Hemorrhage, &c. By L. F. Gondret, Doctor of Medicine of the Faculty of Paris, &c.—Paris, 1837. 8vo. pp. 328.

2. Counter-Irritation, its Principles and Practice, illustrated by one hundred Cases of the most painful and important Diseases effectually cured by external Applications. By A. B. Granville, M.D. F.R.S., &c.—London, 1838. 8vo. pp. 360.

3. Counter-action viewed as a Means of Cure, with Remarks on the Uses of the Issue. By John Epps, M.D., &c.—London, 1832. 8vo. Pp. 69.

† Recherches sur les Effets de la Saignee en quelques Maladies Inflammatoires. Par P. Ch. A. Louis.

so dissimilar do in fact signify the same thing; and, whether they do so or not, what they do signify. That the word *derivation* and its correlative *derivative*, have a sufficiently wide sense, is evident from passages of the work of M. Gondret; for he says that "normal derivation consists in the regular course of the different evacuations proper to the human body, cutaneous and pulmonary exhalations, urine, and fæces. Therapeutic derivation has for its object to re-establish normal derivation, when it is retarded or suspended." (p. 13.) Dr. Epps occasionally employs his word *counter-action* in a sense equally extensive; for he remarks, after describing the cold and hot stages of ague, "All pass away on the occurrence of the perspiration; and what is this perspiration but a counter-action set up upon the skin, and thus relieving the internal disease?" The same writer remarks that, "in cases of abdominal dropsy, violent purging is induced to excite counter-action, in order to remove the dropsy, and at the same time to overcome the action connected with the effusion of a dropsical fluid. Indeed, in many other diseased states, counter-action is frequently excited by the internal administration of medicines." (p. 56.) Definitions, or rather descriptions, like these, give to the words employed in the titles of these works a meaning co-extensive with the whole method of cure adopted in hyperemia and inflammation, whether applied to the surface or administered internally; and an essay on derivation would be a treatise of therapeutics. When we examine, however, the application of the terms these writers respectively use to the means they actually employ, and to the direct effect produced by these means, we find that counter-action, counter-irritation, and derivation, counter-irritants and derivatives, have the same meaning; the former words describing a degree of irritation of the surface, with an afflux of blood to it, and in most cases an increased secretion from it; the latter, the means by which such effects are produced. All the words are hypothetical, (that employed by Dr. Epps excepted;) derivation, and its correlative, implying that the afflux of fluid to the part irritated is the means of cure; counter-irritation, that the irritation is so. This is, however, immaterial; as is likewise the etymological sense of the words, (a point on which Dr. Granville lays needless stress,) provided it is agreed to limit them to express the fact that, from the application of substances capable of producing such immediate effects on the surface, diseases seated elsewhere are relieved or cured; a fact which experience only can teach us, though an analogy which will be subsequently adverted to may have suggested their trial. Revulsion and revulsive have, at least since the days of Wiseman, been understood to differ from derivation and derivative only in degree. Leaving the humoral pathology involved in all the words out of the question, the former express that the remedies applied, though of the same nature, are more violent, and are applied at a greater distance from the part morbidly affected than when the latter terms are employed.*

It will thus be perceived that there was a source of confusion arising from the employment of different words to express the same thing; this difference arising from the medical doctrine reigning at the time the terms were introduced, and their adaptation to such doctrines: the contemporaries of a humoral pathology ascribing the cure to an afflux of humours to the part, the solidists to its irritation. Dr. Granville has dedicated eight pages of very small scholarship to a further confounding of the original confusion. Besides showing a singular want of skill in discussing what he considers the three modes of action displayed by these remedies prior to his *discoveries*, he introduces a fourth element of confusion in the following very luminous terms:

"One of the external applications to which I allude I have found to produce four very distinct and well-marked actions; or, if the reader pleases, four consecutive degrees or varieties of the same action. Three of these are identical with the three modes of action already described, (counter-irritation, revulsion, deriva-

* Derivation differs from revulsion only in the measure of the distance and the force of the medicines used: if we draw it to some very remote, or it may be contrary, part, we call that revulsion; if only to some neighbouring place, and by gentle means, we call it derivation.—Wiseman's Surgery.

tion;) the other, or the principal mode, judging only by its manifestation when employed, and by its rapid success, is not comparable to any of them. It stands alone: I believe it never to have been obtained before by the ordinary means of external medication; and its influence on the nervous system admits of only two plausible solutions: that of a *shock*, (dissimilar, however, in every respect to that of electricity or electro-magnetism,) and that of a rapid absorption of the substance employed. It is not possible to explain what takes place under the almost magic influence of the application alluded to, in all cases of acute pain of the nerves, of spasm, of nervous head-ach, and of very intense tooth-ach, unless we adopt one or the other of the preceding solutions." (p. 7.)

II. Those natural analogies by which counter-irritation was probably suggested in the infancy of our art, and from which its adoption receives illustration and authority in the present day, are of too much practical importance to be passed without notice. All the writers before us mention them. Dr. Granville says, "If, in a case of gout affecting the stomach, we succeed in relieving that important organ by means of counter-irritants applied to the instep or the toes, we do so because we have often witnessed how nature quickly expels a dangerous attack of gout from the stomach by the appearance of a well-defined, red, tense, and exquisitely painful swelling of the foot." Dr. Epps treats this branch of the subject at considerable length; and we consider his first chapter as a valuable record of examples drawn from sources ancient and modern, and from his own experience, of the danger accruing to patients from the suppression of chronic eruptions and ulcers; though we must be allowed to remark that, by suitable constitutional treatment, medicinal and dietetic, the patients might have been relieved from a loathsome local affection, without danger to life, much more frequently than Dr. Epps seems to imagine; and we are somewhat surprised that an experienced physician should have apparently counselled rather a slothful acquiescence in disease than an adoption of measures for the restoration of *actual* health. These eruptions, from the crusta lactea of infancy to the acnes and impetigines of adult or even advanced age, are very properly regarded as the safety-valves of the constitution; but neither reasoning nor experience counsels us against dealing with them through the constitutional errors on which they are dependent. Would not the correction of faults of regimen and the prudent employment of remedies for plethora, conjointly with the local treatment for the ulcer existing in the following case, have produced a result much more creditable to our art, and beneficial to the patient, than that which actually occurred? We give the case in Dr. Epps's own words, which most people will regard as more distinguished for point than reverence.

"I remember a dean who made 'a god of his belly,' and who every morning was visited by his medical practitioner on account of an ulcerated leg, with which he was, he said, 'afflicted;' the medical practitioner thought 'blessed.' Becoming tired of the constant torment of this ulcerated extremity, and being at the same time, perhaps, unwilling to pay the constantly repeated fees, the luxurious dean went to a surgeon of considerable eminence for the cure of diseased legs. The leg was healed, and the chapter was left vacant; for the worthy member who had filled a place in it so many years, with so little benefit to the public and with so much ease to himself, was absent: in other words, he died; and apoplexy was death's messenger.

"The dean's medical adviser had recommended him not to have the leg healed; for, as the dean would eat, and, as the poet says, 'would sleep,' it was the conviction of the practitioner that some drain must exist in the system.

"The dean, however, was not satisfied. The leg-doctor was not of the most accurate or of the most extensive knowledge: he did not see the principle of the treatment. The patient came wishing to have his leg healed: the object was effected. The leg-doctor was praised; but the dean, as was before stated, soon ceased to give his recommendatory statements of the man's skill." (p. 6.)

In the same part of the work we find recorded the important fact that in families, some of whom labour under insanity, and others are exempt from this malady till the day of their death, the latter will often be found to have had through life scrofulous ulceration in the leg, neck, or some other part of the body. In-

deed, the analogies drawn from natural disease in favour of counter-irritation are in general very interesting; but some we think strained beyond the limits which strict reasoning justifies. In this category those appear to us which are drawn from the exanthemata; the author regarding the eruption of small-pox as a counter-irritation established by nature for the relief of epigastric pain, vomiting, and fever; whilst that of measles is similarly destined to remove the catarrhal and febrile symptoms of the complaint. This view appears to be rather assumed than proved. A considerable mitigation of the internal distress in these two diseases generally accompanies the eruption; but it occurs on its first appearance, before the inflammation of the skin exists to an extent to act as a counter-irritant. Indeed, their whole progress wears more the aspect of the disease fulfilling its destined periods, than that one of its parts is the remedy of the other. If we attempt to extend the analogy to scarlatina, it fails; for here great hyperemia of the skin, so far from relieving an ardent fever and great internal oppression, is associated with them throughout the disease. The deadly nature of certain cases of the exanthemata, in which the eruption fails to occur, cannot be advanced with any confidence to confirm the views of the author; for it is at least as reasonable to attribute this failure in the ordinary course of the disease to its inherent deadliness, as to suppose, with Dr. Epps, the causation to take place in the reverse order.

III. Besides the suggestion and confirmation of the practice now under consideration, derived from these natural analogies, accidents or surgical operations not performed for the purpose of exciting counter-irritation, may, in the course of their cure, produce an effect on some previously existing disease, well fitted to illustrate the therapeutic value of intentional counter-irritation, and even the relative utility of different modes of effecting it. Dr. Epps's pamphlet is rich in cases belonging to both these classes. The following example of accidental counter-irritation appears very important and instructive:—Captain Innis was tapped, and nineteen pints of water were drawn off. The abdomen began again to fill, and several pints of water had reaccumulated. Some boiling water was spilled on the captain's leg. Inflammation came on, an ulcer was formed, and spread. In proportion as it spread, the accumulation of water in the abdomen diminished, and at length the officer was perfectly cured of his dropsical affection.

We think that some exception might be taken to a proportion of the author's cases, which fall under one or the other of these heads; for, being rather culled from various writers than derived from his own experience, many of them are deficient in the fulness of detail required for a just estimate of the power of the (accidental or unintentional) remedy. This objection applies to the following case from Richter. This eminent surgeon had extirpated both mammæ for supposed scirrhus. On the fourth day after the operation, an indurated gland was discovered in the arm-pit, suppuration of the wounds appeared on the fifth, and during this, which lasted for five weeks till the breasts were healed, the tumour vanished. We think that a full detail of the case would have shown, either that the axillary swelling had been generated by the irritation of the incision, or that, at all events, it was of the nature of common inflammation, and not carcinomatous; for we are convinced that it does not consist with the experience of any surgeon that tumours of a malignant nature are dispersed by the suppuration induced by the removal of a portion of the diseased structure. Again, Dr. Epps informs us that Brambilla saw phthisis cured by amputation of a leg. We have seen many cases, at least very much resembling phthisis, cured by this means: we did not, however, ascribe this to the counter-action of the operation, but to the patients being relieved from the irritation and drain to their constitution arising from a diseased joint.

IV. We should object to all of the works before us, that they are less systematic treatises on counter-irritation than pleadings in favour of some specific mode of effecting it; but it is only just to remark that, whilst the unpretending pamphlet of Dr. Epps is the least exceptionable on this score, the more voluminous and imposing tome of Dr. Granville is the most so; and to the last-named individual belongs the additional distinction of being the sole advocate of

a secret *nostrum*, and this nostrum his own. We should have been gratified to find such questions as the following discussed, and the experience of the writers applied to their solution:—In acute inflammatory disease, how far will counter-irritation supersede blood-letting and other exhausting measures? Should, in such diseases, epispastics be at once associated with the means employed, or should the latter in all cases precede them? In phlogosis of a more chronic character, should depletion enter into the plan of treatment, or may the disease be trusted to counter-irritation alone; and, if the former is to be employed, ought it to precede the latter? These are practical questions, and such as a good deal of observation of what is done and omitted by various medical men in this country, convinces us are not so far settled as to induce an uniformity of practice; and an examination of them, if not a final settlement, might have been reasonably expected in works of the character now under consideration. Another point, too, of much importance is left untouched by these writers, with the exception of Dr. Epps. When irritants are applied to the surface, certain manifest effects are produced there; such as rubefaction, vesication, and cauterization, and, it may be, ulceration with secretion of pus. Besides these effects on circulation and secretion, there is a sense of heat and smarting, arising from an impression on the nerves of the part. According to the choice of the practitioner with regard to the means he employs, or the duration of the application of the same means, certain only of these effects may be produced, others avoided. It is an important question how far one only or more of these forms of effects are essentially connected with the curative influence on disease; and, provided that more than one is so, which is the most influential? The decision of this question, it is obvious, should precede the other, "What counter-irritant is the best?" and would suffice to settle it; whilst the latter is the main theme of three volumes, the former is mentioned only by Dr. Epps.

We attach the more importance to this writer's opinion on this point, because it is, though not identical, considerably accordant with that of one of the master-spirits of our art, Dr. Jenner. The former gentleman, after eulogizing the efficacy of issues, thus expresses himself:

"It may be asked, *on what is the counter-action* connected with the issue dependent? Upon the formation of the pus, and the *state* of the surrounding parts connected with its formation. The formation of pus necessarily implies a new action in the vessels of the part. The vessels surrounding the part where this action is going on are brought into a dilated condition. They are thus predisposed to be affected by any cause producing an irregularity in the distribution of the blood; and thus, the diseased action being induced in them, it is prevented taking place in any internal part where a debilitated state of the parts may exist." (p. 64.)

Dr. Epps meets the reasoning deduced from the small quantity of matter formed by the following facts:

"A. B., a young gentleman of high moral character, aged twenty-one, had been troubled for several years by a small transparent drop of viscid lymph being continually at the termination of one of the passages of the body. It was no trouble to him; but when, from any cause, it was dried up or was not formed, A. B. was seized with the most intolerable headaches, nor relieved until the discharge was produced." (p. 64.)

Dr. Jenner, in his letter to Dr. Parry on Artificial Eruptions, insists, in common with Dr. Epps, on the necessity for the production of a fluid. He says that he found, in the case of artificial eruption produced by the ointment of emetic tartar, "that the relief afforded was almost invariably timed, not simply by the first blush of inflammation, but by the appearance of vesicles which contain a *secreted fluid*; and that these seem absolutely necessary for the production of constitutional influence." Again he remarks, (and it is not unpleasing to trace the influence of his researches on cow-pock in his reasoning,) that "a vesicular eruption, in general, seems the favorite scheme of nature for limiting the duration of peculiar morbid actions." "Every pimple with a vesiculated head has an errand to perform for the benefit of the constitution." Among the subjects connected with counter-irritation and artificial eruptions, suggested by this dis-

tinguished individual for further elucidation, is the following: "How far the peculiar constitutional influence results from the *eruptive* form of the local irritation excited, and is analogous with the laws of *secretion*." It is evident that, though one of these writers suggests the employment of the ulcerative, the other that of the vesicular or pustular form of irritation, both regard the secretion induced as the efficient instrument of cure.

V. With the exception of Dr. Epps, the writers before us display little of the analytical spirit in which we should have been glad to see the whole subject treated: they furnish, however, much information as to the influence of certain counter-irritants on different diseases; and the substance of this information we shall endeavour to impart to the reader in as systematic a form as we can invest it with.

I. *Heat.* Heat is an agent which receives much attention from two of the writers; and, as its powers are less generally known and appreciated in this country than abroad, we are glad of an opportunity of exciting attention to it. The illustration, by Dr. Epps, of intentional counter-irritation derived from the accidental application of heat, has been already mentioned. The same writer gives us some valuable information regarding the intentional employment of the same agent. The following examples of recovery from poisoning are very valuable. A gentleman took ten grains of opium, and in about an hour after was found by his medical attendant in an apoplectic state. The stomach-pump was then unknown, and, the stomach being overpowered by the poison, tartar emetic and white vitriol failed to produce vomiting. Hot water was applied to the thighs, legs, and arms alternately for twenty-four hours, when the patient recovered; the inflammation in the scalded parts being afterwards so severe as not to allow the patient to touch them with his clothes. It is probable that the practice which here proved so successful might be extended to other cases of apoplexy besides those from poisoning. In the other case, in which a blacksmith had taken ' a *quantity* of prussic acid," boiling water was poured over the legs without any effect. The legs were then scarified in numerous places, and another quantity of boiling water was poured over the limbs thus scarified. The first sign of restoration was a slight spasmodic contraction of the muscles, and in a short time spasmodic action took place in many parts of the body. The pulsation of the heart and the respiratory motions were restored, but weakly and irregularly. In a quarter of an hour the legs began to swell, and there was general excitement, but no pain. There was progressive improvement, which is minutely described; but it is sufficient for us to say, that on the evening of the second day he became quite sensible, and was ultimately restored to perfect health. We think this case creditable to the practitioner. Cold affusion might possibly have produced the same result more speedily, and certainly without subsequent suffering; but we are not willing to intimate that any proceeding would have been preferable to one which produced recovery under such deplorable circumstances as those described.

Fomentations are too generally prized, and the correct mode of applying them is too familiar, to render it needful to transcribe Dr. Epps's testimony in their favour, or his minute description of the best mode of employing them; but the following statement transcends any idea we had formed of their efficacy, and we regret that the author does not confirm it from his personal experience.

"Dr. Wigton, of Edinburgh, states [where?] that by fomentations he always succeeds in curing *puerperal inflammation*, if called before the disease has proceeded to the last stage. The pain, let it be remembered, is often increased by the two or three first applications, but afterwards the pain diminishes. The rule of Dr. Wigton is, *never to desist till the pain is relieved*, yea, *removed*. Perseverance is always necessary; no fixed time for the continuance of the fomentation can be named: *till the pain is relieved* ought to be the criterion." (*Epps*, p. 27-8.)

M. Gondret dedicates a chapter of considerable length to the consideration of the same agent, heat. It opens with the well-known aphorism of Hippocrates: "Diseases which medicine does not cure, steel cures; those which steel does not cure, fire cures; and those which fire does not cure must be regarded as incurable." Supported by this high authority, M. Gondret extended his historical

researches from the 80th Olympiad to the present era, and found that all distinguished physicians had given their testimony in favour of this remedy. He proceeded to its practical application, and after finding that phthisis, in a certain stage, yielded to its power, he assailed with it palsy, apoplexy, epilepsy, rickets, cancerous tumours, gout, neuralgia, visceral enlargements, cataract, and amaurosis. His experience in these diseases has led him to regard fire as the tonic "*par excellence*," and, as it re-establishes at the same time the physical and moral faculties, the regulator of the vital principle.

These flourishes suggested no pleasing presentiments of our further progress through the work; but we find the facts detailed of greater value than we anticipated. Those relative to sincipital combustion,—in other words, burning the crown of the head with a metal heated to a white heat,—in certain affections of the sensorial and motor systems, appear to us very interesting and important. A brief abstract of one or two cases will, we think, lead the reader to concur with us in opinion.—A girl, sixteen years of age, subject from her third year to convulsive movements of the muscles of the neck and momentary loss of consciousness, became, when twelve years old, decidedly epileptic, so that she had monthly from fifteen to twenty fits of this disease. Her intellect was obscured, her appearance idiotic, her movements were restrained and slow, and her step was tottering. Bleeding and antispasmodics were employed in vain. On the 27th March, 1816, sincipital combustion was performed, and there was no fit till the 16th April. On the 8th of May, a thin scale of bone exfoliated from the cauterized part. On the 10th of this month, the cautery was repeated above the occipital protuberance. From the 27th of March to the 6th of October, a period which, prior to the cauterization, would have furnished more than a hundred fits, there were but three, and those very slight ones; whilst the intellectual faculties were much improved, and the movements became free and lively. Seven months after the first use of the cautery, this patient married, and a year after bore a healthy child.—In the following case of double cataract, the effect of the same remedy would appear to have been very beneficial. A sergeant had inflammation of the right eye, with cephalalgia, and was sent to consult M. Gondret. On the 8th of December, 1824, his state is thus described: Right eye, vision null, conjunctiva inflamed, with a degree of puffing resembling chemosis; no pain; pupil motionless and contracted; cataract very well marked: left eye, sight constantly interrupted by a thick mist, and at intervals entirely confused; evident opacity of the lens, which is of a grey-white colour. On the 9th of December he was cupped in the nape, and the crown of the head was cauterized. Passing over other reports, we reach that of August, 1825, which is as follows: The cataract of the left eye is almost invisible, and the vision good; in the right eye, the conjunctiva is cured, the pupil is still contracted, but possesses some motion; the lens is very visible, though less opaque and less dense than it was. The sight of this eye, which formerly was null, is sufficiently re-established to enable the patient to distinguish the features of any one, especially when he looks in the direction of the small angle of the eye, where the crystalline has the least opacity. In September, the vision of the left eye was well preserved, whilst that of the right was improving.

This memoir of the author on the utility of fire in medicine is the subject of a report by the commissioners, MM. Portal, Thénard, and Percy, deputed by the Royal Academy of Sciences to inquire into its merits. This report is in the highest degree favourable to the disinterestedness, modesty, and integrity (*loyauté*) of the author, and to the efficacy of the means he recommends. They declare that the application of fire in general, and in particular the burning of the head, are exempt from danger, when employed by one possessing the requisite pyrotechnic skill; and that they themselves had witnessed, on five important (*majeures*) occasions, where physicians, wearied with the obstinacy of the disease, had abandoned the patients for ever, sincipital cauterization, performed by M. Gondret, produce changes the most astonishing and the most salutary.

It has long been our opinion that, in affections of the brain and nervous system, counter-irritation of the scalp is less frequently and decidedly employed in this country than it deserves to be. As in the case with many peculiarities of British

practice, this chariness can be traced, we believe, to the influence of one successful writer. Dr. Cheyne, in his work on Hydrocephalus acutus, published nearly a quarter of a century ago, reprehended the practice of blistering the scalp in this and other cerebral affections; and his counsel has not only been adopted, but extended beyond the circumstances to which he applied it. We find even the present writer, M. Gondret, in a tone singularly inconsistent with the general tenor of the work, decrying *leeches* and blisters to the scalp in acute affections of the head, and asking "who has not seen cerebral and ocular inflammation augmented under the influence of leeches, applied alternately on the temples and round the eyes and ears?" With the single exception of the application of these animals so near the eye that the irritation caused by their bites extends to the inflamed organ, we have not only not seen that happen which is implied in M. Gondret's query: but we have observed the very reverse,—relief of cerebral and ocular inflammation. We may remark, that a practice very analogous to the sincipital burning of our author, the application of caustic potash to the crown of the head, is much employed in diseases of the eyes by some of the ablest oculists in this country,—among others, by Mr. Guthrie; but we are not aware that this practice, less alarming to the feelings of our countrymen than the fiery proceedings of our Gallic neighbours, has, by a very natural analogy, been extended to diseases of the brain.

2. M. Gondret was naturally desirous of obtaining a means of effecting the surface to an extent sufficient for producing an efficient counter-irritation, in a manner less shocking to the prejudices of some physicians and less painful to the feelings of patients, than combustion in general, and sincipital combustion especially, are found to be. This means he considers that he has obtained in his "*pommade ammoniacale*," the preparation of which is thus described: Take of hog's lard seven drachms, of oil of sweet almonds one drachm and a half, and of liquid ammonia (of twenty-five degrees) from five to six drachms. Melt the hog's lard, mix with it the oil, and pour them into a wide-mouthed bottle with a ground-glass stopper; then add the ammonia, close the bottle, mix the contents together by shaking, and keep the mixture in a cool place.

The evidence adduced by the author of the efficacy of this application, not merely in those chronic cases to which, prior to its adoption, he would have thought his heated iron suitable, but in acute inflammatory diseases, in which blisters are the counter-irritants ordinarily employed, is most decisive. Regarding its influence over this latter class of diseases he thus expresses himself:

"With this liniment, a few minutes suffice for its good effect. The disease, it is true, is not always entirely cured: its intensity only is abated, and it is on this account so much the more easily managed, and, under suitable treatment, the result is almost always fortunate. Even in inflammations of a considerable degree of severity, the disease, being attacked at first by the vesicating liniment, miscarried, as it were, and appeared to be reduced to the mere artificial inflammation of the dermis. Even notwithstanding previous attacks of the lungs, the disease runs a mild course, and terminates from the sixth to the tenth or eleventh day. I can speak as confidently regarding the inflammation of many other tissues, such as the mucous and serous membranes, the fibrous tissue, &c. The same application produces the same results. An excellent use may be made of this remedy in the different forms of angina; in croup, for instance. The rapid action of the vesicating liniment has another advantage, easy to be perceived,—the physician can order the application of the remedy, and immediately know its effects. The phenomena which he observes enlighten his diagnosis, and make him acquainted with the real indications of cure. This is the proceeding which I constantly pursue, and I cannot express the satisfaction I feel in having adopted it." (*Gondret*, p. 56.)

The author's experience of the effect of his "pommade ammoniacale" was, like his observations on actual cautery, the subject of a memoir to the Royal Academy of Sciences, and of a report from the commissioners of that learned body, MM. Portal, Hallé, and Percy. They express themselves in favour of the remedy. It is much more prompt in its action, they say, than cantharides, exempt from the distress occasioned by the absorption of this medicine, and capable of

much more varied effects. If the skin is to be excited, perspiration re-established, and some subcutaneous engorgement to be dissipated, light and hasty frictions accomplish these objects. If a rubefacient effect is sought, its application for one or two minutes, spread thickly on linen, answers the purpose. In case vesication is required, a similar application for five or ten minutes produces the effect. On the other hand, should absolute cauterization be sought without alarming the timidity of patients or the prejudices of certain medical men against the use of fire, a somewhat longer application attains this end, so desirable in many neuralgias.

This ammoniated preparation leads us to the consideration of certain washes recommended to public notice by Dr. Granville. The analogy which suggests the transition consists in the facts that, whilst ammonia is the avowed basis of M. Gondret's preparation, the same alkali is at least an ingredient in the washes of Dr. Granville, and, so far as we can decipher his Sibylline leaves, an important ingredient. We would say, moreover, that, on comparing the candid statement of M. Gondret of the effect produced by his pommade, and that of Dr. Granville regarding his "antidynous lotions," divesting the latter, as far as we can, of "shocks (dissimilar, however, in every respect to that of electricity or electro-magnetism,)" and other mystic matters, we find the greatest possible resemblance between the effects attributed by the writers to their respective remedies. Here, however, the parallel between the two authors ceases; for whilst nothing can exceed the openness and candour of the Frenchman, and whilst we cordially concur in the praises bestowed by the commissioners of the Royal Academy of Sciences on his disinterestedness, modesty, and "*loyaute*," we have not been impressed with any signal display of these qualities in the work of Dr. Granville.

A few parallel passages from both authors descriptive of the effect of their remedies will, we think, show that their nature is essentially the same.

With regard to the promptitude with which pain is allayed by his liniment, M. Gondret describes a very acute rheumatism of the posterior muscles of the neck under which M. Renauldin, principal physician of the hospital Beaujon, laboured.

"A small wound was made over the most painful point. When the pain raged with intensity, M. Renauldin requested that the liniment should be applied to the wound itself. This was done and, instead of increasing the pain, it imparted great relief. M. R. declared, *during the action of the pommade, he experienced only pleasure on account of the cessation of the pain.* With the liniment I recommend, *a few minutes* suffice to produce this good effect." (*Gondret*, p. 55-6.)

"I found that without charring the skin or producing an eschar, such combinations would on a mere application to the external surface of the body, give rise to peculiarly energetic effects on the disease, *in the brief space of a very few minutes* (sometimes seconds only). As the nature of the first impression in all cases of pain was ascertained to be an instantaneous removal of the pain itself, even where no other phenomenon was required or permitted to arise from any of the applications in question, I gave to this class of counter-irritants the name of antidynous." (*Granville*, p. 51.)

"Others *appear to consider the artificial pain as a relief, and a few even have hailed that pain as a pleasure.*" (*Ibid.* p. 86.)

Both rapidly blister.

"Do we require for any reason a vesicating effect? It is sufficient to leave the liniment applied for *a period varying from five to ten minutes*, and the physician before quitting the patient can see the effect of the remedy which he caused to be applied when he entered, an advantage which *boiling water* or boiling oil could produce more quickly, but *too abruptly*, *too painfully*, and too irregularly, to entitle them to the preference." (*Report to the Royal Academy of Sciences*; (*Gondret*, p. 45.)

"But the relief of pain, in a manner almost magically rapid, is not the only phenomenon produced by antidynous or counter-irritating lotions. Another very striking characteristic of them is that of raising, if necessary, *in a few minutes*, a complete and genuine blister, equal to that produced by the best blistering

ointment after several hours' application, or by *scalding water*, but accompanied by *pain much less intense in degree*, and much shorter in duration." (*Granville*, p. 53.)

Both, besides blistering, produce a rubefacial or cauterizing effect according to the length of time they are applied.

"Do we wish to produce rubefaction, we apply a portion of this *pommade* one or two lines in thickness spread on linen, for one or two minutes. . . . Is it necessary to imitate the cauterizing action of fire, we shall succeed by prolonging the application." (*Report to the Royal Academy of Sciences; Gondret*, p. 45.)

"Without necessarily producing rubefaction and cauterization, although, if sufficient time for the purpose were allowed, the same combinations would produce the latter phenomena also." (*Granville*, p. 51.)

We shall notice only one coincidence more, regarding the principle on which both these applications relieve pain.

"Taking as a guide of practice this sentence of Hippocrates: of two pains formed simultaneously, but in different parts, the stronger obscures the other; if an internal organ is affected with a pain arising from an inflammation or an arthritic or neuralgic metastasis, in an instant it will be easy to lessen it or to cause it to disappear, by opposing to the prevailing pain a new pain. In these case, the remedy cannot be applied with too great promptitude." (*Gondret*, 54.)

"It now remains for me to assert, as a crowning of all this, that so soon as the pain of the lotion is felt, that instant the inward pain, for the removal of which it was applied, is suspended and at last vanishes." (*Granville*, p. 88.)

It would be easy, but superfluous, to multiply quotations to prove that the immediate effects of these two agents are identical; and when we compare the diseases in which they are employed by their respective authors, we find that the same ultimate effects result from them; in other words, that they remedy the same complaints. From these facts, and the statements of the authors, the inference seems inevitable, that both individuals are employing the same agent, ammonia, in a more concentrated state than it has hitherto been usual to employ it, either as volatile liniment or in any other way, and that the sole difference between them consists in the one having selected an unctuous or saponaceous vehicle, whilst the other diffuses his ammonia through "liquid odours." With regard to discovery, M. Gondret does not claim any beyond the application of a counter-irritant familiar to the profession at least since the days of Sir John Pringle, in a state of concentration sufficient to accomplish objects not formerly expected from it, and in a convenient form for application. Neither does Dr. Granville's claim of originality rest on the employment of *ammonia;* on the contrary, his 21th case was one of epilepsy observed by him in the *Hôpital de la Pitié* in 1816 and 1817, and cured under the care of M. Serres by means of a cerate composed of purified butter of cacao and liquid ammonia applied over and along the spine, by which vesication and a discharge were produced. Now, the commissioners of the Royal Academy of Sciences state that M. Gondret sometimes substitutes this very butter of cacao for his ordinary unctuous vehicle, six drachms of the former replacing an ounce of the latter. M. Gondret, be it remarked, is an old labourer in the field of counter-irritation, and though his book does not furnish positive evidence of it, for he does not stickle for priority, and does not often insert complete dates, we think it probable that the counter-irritant employed by M. Serres had been originally suggested by him. On this point, however, in the absence of positive evidence we have no right to insist, nor is it necessary that we should. But we have proof, even in the works before us, that M. Gondret used his "pommade ammoniacale" as early as 1821, (see p. 35,) whilst the date of the first application of Dr. Granville's lotion is eight years later. M. Gondret's memoirs to the Royal Academy of Sciences must have been printed as early as 1818, at least; as the first edition of his work, *sur le Feu*, to which the Academy's Report is attached, was published in the end of that year or beginning of 1819. Even the present work was published a year before that of Dr. Granville. Considering these circumstances,—considering, moreover, how ardent a cultivator of medical literature Dr. Granville has ever shown himself,—we cannot help feeling some surprise that the labours of M.

Gondret should have entirely escaped his notice; especially that that book should have done so, of a portion of which (that relative to the "pommade ammoniacale,") his own wears the appearance of being a mere amplification.

Whether the coincidences of thought and language which have struck us in perusing the two works, and of which our readers have been furnished with a few specimens, arise from the one book having formed the foundation of the other, or whether they are only examples of that accordance of opinion which two individuals engaged, unknown to each other, in the investigation of the same subject may be supposed to display, Dr. Granville alone can positively determine. With regard to our own opinion on this point, besides that we are wishful to acquit Dr. Granville of plagiarism, finding, after making the reasonable deductions from the extraordinary verbosity and inflation of his style, that nothing is predicated of the one preparation, that is not declared to be true of the other, we are firmly of opinion that the agents employed by these two writers, are in all essential respects the same, and that Dr. Granville was labouring under some extraordinary delusion when he fancied he had made "*discoveries.*"

We think that the evidence adduced by M. Gondret shows that strong liquid ammonia is a very efficacious instrument of counter-irritation, capable by slight varieties of management of more varied effects on the surface, and consequently on disease, than most of those with which we are acquainted, and that, whilst it is capable of doing much good, it is difficult to conceive that any evil can be produced by it, excepting from a want of judgment in its application which it is scarcely possible should occur. It would have given us much pleasure to add, that Dr. Granville, whilst he had contributed by the mass of facts he has brought forward to confirm the views of M. Gondret, had written a sensible volume to diffuse the knowledge of a valuable remedy among the profession in our own country. The former praise (he may thank us for it or not) we think is his due: but to the latter he has no claim; for, as we remarked in our last number, he has addressed no work to the profession. Conscious, apparently, of some demerit, he has made an anticipatory appeal from the decision of a competent tribunal, the profession, to that of an incompetent one, the public. This appeal, however, will avail him not: he is before a professional tribunal, and its award he must abide. One tithe of the talent and judgment which on many occasions he has displayed, would have enabled him to write a book on this subject for which he would have been praised and thanked. Some strange mistake, some unaccountable condition of bewilderment has led to the production of one, which will be for a few weeks a byword and a scorn, and then (let us hope) will be forgotten.

3. The subject of the third means of derivation employed by M. Gondret, cupping, is introduced by a description of the effect of atmospheric pressure on the body generally and the various functions, such as respiration and suction which are directly dependent on such pressure, and on those, the circulation and cerebral functions, which receive from it a secondary influence. This physiological account, which will be found between the 83 and 98th pages, does not present any novelty, but it is accurate, and might be read, especially by the general reader, with advantage. The following examples of the pathological effect of diminished atmospheric pressure are interesting to all.

"In the month of December, 1747, sudden deaths were very frequent at Pluviers in the Gâtinois, and M. Duhamel observes that in this same month the barometer fell in less than two days one inch and four lines, that is to say, from twenty-eight inches to twenty-six inches and eight lines, which certainly might produce great effects on the living body, since the variation of an inch in the barometer indicates a difference of about a thousand pounds in the weight of the atmosphere."*

"At the summit of the Vosges, wounds and ulcers bleed easily, and the formation of the clot in hemorrhages is difficult; ophthalmias are very obstinate; catarrhal quinsies are very common and difficult of cure; hernias easily become

* Duhamel, Encyclopedie Method. t. 1.

strangulated, and metastases are frequent; pregnant females are subject to difficulty of breathing, and to floodings and miscarriages. It is often necessary to convey patients to the foot of the hills, that they may respire an air less attenuated.* These observations of Saucerotte have been confirmed by those of M. Hippolite Cloquet. M. Dolomien when in feeble health, his chest being especially delicate, having ascended to the *Pic du Midi* (a height of 9,000 feet) experienced speedily extreme weakness, considerable oppression and a spitting of blood, which placed his life in real danger, till he was conveyed down the hill. More robust travellers, however, such as MM. de Humboldt, de Saussure, and others, attained to a higher degree of atmospheric elevation without experiencing such painful effects." (p. 96-97.)

The opinion of the author regarding the effect of atmospheric pressure is not confined to its conditions which are relatively to men abnormal, but he thinks that in a diseased state the ordinary atmospheric pressure is a source of distress.

"When the health is impaired, the weight of the body, and consequently that of the atmosphere, becomes extremely perceptible. Thus, in cerebral inflammation or plethora, there is often a sense of weight in the head so considerable that the patients cannot raise the part; and it is in the highest degree probable that an organ, the seat of a sanguineous engorgement, cannot form an equilibrium against the pressure of the atmosphere without suffering." (p. 100.)

We are not aware of any facts which lead to the conclusion that the normal pressure of the atmosphere is injurious to our organs, sound or healthy, and we cannot discover in the circumstance here stated by M. Gondret, any evidence that such is the case. When the brain is the seat of hyperemia or inflammation, the head feels heavy and the act of raising it is painful, but so is that of moving it laterally or rolling it; it is moving the diseased organ, not raising it only, which occasions distress; or, if more distress is experienced in raising it, this arises from the movement itself and the muscular exertion required to effect it in this direction being greater. Lying with the head raised, so far from augmenting the distress, is one of the means employed by medical men to remedy it. The benefits of the revulsion effected by cupping did not require, and certainly could not receive, any confirmation from this vague speculation.

Dry cupping, a remedy strongly recommended by Hippocrates and Celsus, and more recently by Prosper Alpinus, had fallen in modern times into comparative desuetude excepting among the Germans; the author, as it were, resuscitates it, and produces evidence of its being an important agent in alleviating, and, in many cases, removing disease. Affections of the heart and various inflammatory diseases having their seats in the head, chest, epigastrium, and uterus have been removed by it. The mode in which the relief is effected is abundantly simple, and we shall state it in the words of the very favourable report of the Royal Academy of Sciences on this part of M. Gondret's labours, a report to which the names of Descamps, Portal, Hallé, and Cuvier are attached.

"The surface of the skin on which the cupping-glass is applied tends to supply the *vacuum* formed, and, as it swells, is raised into the cavity of the glass. The vessels and the *areolæ* of the subcutaneous cellular tissue dilate at the same time, and draw into the canals and expanded spaces a greater quantity of liquids, and these liquids are withdrawn in a circle (de proche en proche) from the neighbouring parts." (p. 113.)

M. Hallé asks the question, to what extent does the influence of cupping-glasses extend? We scarcely need remark that no distinct answer is given to this question. M. Gondret's opinion of the extent is tolerably wide, since in a case of affection of the heart, he applies his instruments round the pelvis, between the nates and on the upper part of the thighs. M. Hallé in a similar case places his, we think more rationally, between the shoulders. The results appear to confirm the predilection of M. Hallé, for in his case a cure is effected, in that of M. Gondret, relief.

The proceeding adopted by this latter gentleman was evidently founded on a doctrine to which we have already had occasion to advert. It is one of great

* Saucerotte, Melanges de Chirurgie.

antiquity and still prevails in France. According to this doctrine there are especial sympathies between some points of the surface and certain organs when in a state of disease, the sympathizing points not being those in the vicinity of the suffering organ but at some distance. Thus the integument of the inferior extremities is the situation selected for counter-irritation when the brain is the suffering organ; when the lung is so, it is that of the inner part of the arm. Barthez held the opinion that the sympathy existed especially with the surface of that perpendicular half of the body, right or left, in which the suffering organ was situated.* The British practice, as is well known, is in general to select a portion of the surface lying over or closely bordering on the organ affected. The question between British and continental practice is one, in the language of the humoral pathology, between derivation and revulsion, and we own that we have never discovered any justifiable ground for the preference shown by our continental neighbours for the latter principle. Those peculiar remote sympathies, such as that between the legs and the brain, have ever appeared to us to be rather assumed than proved, rather the result of fancy than observation, and we have not always found their advocates in perfect accordance on the sympathising points. Were we to express the result of our own observation on these sympathies in general, we should say that they manifest themselves most decidedly between organs and the portion of the surface lying over them. We think this is abundantly exemplified in the applications of counter-irritants to relieve pain of the head, chest, bowels, and along the course of the spine.

VI. Before taking leave of the subject we think it right to caution the reader against expecting more from counter-irritation than it is able to accomplish. The cases are rare in which we should consider it more than subsidiary to internal medicine and properly regulated diet. A degree of exaggeration often occurs in works like those before us; but readers in general, being aware that the effect of the assiduous cultivation of any branch of science or study is to impart very high ideas of its importance, will know how to make the requisite deductions from statements in some degree overcharged, provided they do not transcend the ordinary level of such exaggeration. The following passage, however, does transcend this level, and we regard it as calculated to convey very deceptive ideas indeed, particularly to the class to which the work is especially addressed, of the power of external medication.

"On looking at these lists, it cannot be denied that the resources which the endermic physician, or he who treats diseases by external applications to the skin might command, are not inferior to those of the ordinary physician who relies principally on external [internal] remedies. Those resources or agents for internal [external] application would afford him the means of producing on the human body three several and successive degrees of artificial counter-irritation, by simply attending to any existing difference in the respective energies of the agents employed, or to the manner and length of time of their employment; or finally, to the various modes of preparing those agents for use." (*Granville*, p. 38.)

Through the haze of a very blundering phraseology, we can yet discern enough of the sense or rather nonsense of this passage to learn that the author places the power of external medication on an equality with that of internal; and this he does, because by outward remedies three several and successive degrees of counter-irritation may be induced. Is all we are capable of effecting by internal medicines—our various evacuants, our mercury, our antimony, our narcotics, our tonics, &c.,—but equal to three degrees of cutaneous irritation? If we look to the solvent and absorbent powers of the digestive canal, its acute sensibilities, and its wide and prompt sympathies, no judicious physician can hesitate to give it a general preference as a *medium* of producing a prompt and powerful action on the constitution over the cutaneous surface, even when we do not merely irritate the latter, but make it besides a vehicle for introducing powerful medicine into the system. In acute disease, threatening life, counter-irritation of the sur-

* Memoires sur le Traitement methodique des Fluxions qui sont les Elemens essentiels dans divers genres des Maladies; (Mem. de la Societe Med. d'Emulation, t. ii.)

face deserves confidence only as an auxiliary not as a principal; and the instances are rare in which the endermic method is adopted for powerfully medicating the constitution, and these instances are the exception not the rule. To the former of these allegations, the only one, be it remarked, involved directly in the question between Dr. Granville and ourselves, this gentleman may object his own case of pericarditis. This case we should have quoted in full, but it occupies five pages, and we are compelled to refer to page 297 of his volume, where the reader will find it. Dr. Granville, after being exposed when heated to a draught of cold air, feels ill on awaking in the morning, with pain in the thorax, "extending from the front to the back, through the heart, and down the left arm," and very irregular pulse. Medical assistance was sent for, but there was some delay, and "the case must soon have become desperate." In three quarters of an hour, however, a young gentleman arrives and draws three cupfuls of blood. The pain still continues. A strong ammoniated embrocation is applied over the pained parts, and is kept on "until they become red hot, and burn vigorously." "In proportion as these effects were produced, the inward pain or stab-like feeling decreased, until at last it completely subsided and passed away." In an hour Dr. G. dressed, "and drove out in the carriage to his usual avocations for the rest of the day, without the slightest inconvenience. The pain never returned." Knowing that the application of the lotion should seldom last longer than from one to six or eight minutes, for Dr. Granville tells us so (see page 82 of his volume), and allowing ten minutes for the bleeding, an ample allowance, we find that pericarditis, one of the most formidable diseases to which the human frame is liable, was completely cured within twenty minutes! Every practical physician, every sound pathologist will at once declare that there is some mistake in this prompt cure of pericarditis, or, on the strength of one case of Dr. Granville's, they must abandon principles deduced from the observation of thousands of examples. Were we asked to give a name to this disease so rapidly removed, we should call it a combination of neuralgia and fright. We beg to remark that we do not consider ourselves as impeaching Dr. Granville's practical skill, in saying that he has erred in the diagnosis *of his own case.*

VII. The office of expressing our opinion of these works in any respect not already noticed will not detain us long.

1. Dr. Epps's little work we should not have noticed at all, it having been before the public for several years, but from its direct connexion, in subject, with the other more recent publications. It is written in a modest and unpretending spirit, and in a clear and plain style, though with an occasional touch of quaintness. We recommend it to the attention of our readers not merely on account of these qualities, estimable as they are, but, moreover, for its good faith, earnestness, and the value of the information it imparts. We have already recorded our dissent from one of his principles of action or rather inaction, conceiving that he has occasionally inculcated rather a cowardly acquiescence in disease than a scientific correction of it, and we would say, too, that he attributes more preventive and curative power to issues than we have generally found them to manifest; still our general opinion of the work is very favorable.

2. We have already had occasion to intimate that counter-irritation and the various modes of effecting it have been more the objects of systematic study in France than in this country. This is no evidence that in the former country therapeutics have been more successfully cultivated than here. It rather appears to us conclusive of the opposite position; for where acute disease is most successfully combated, there will be found the fewest chronic ailments for the operation of heated iron and other counter-irritants; and many a triumph has been afforded to such means, which English practice, especially the judicious use of mercury, would have forestalled. However this may be, it is much to the credit of M. Gondret that, writing on a subject so much cultivated in France as to have become almost trite, his memoirs to the Royal Academy of Sciences, of which his volume may be regarded as the collective republication, should have drawn forth unqualified approbation from the commissioners of this distinguished body, and especially so, that one of these approving commissioners, M.

Percy, should have been previously himself very much distinguished in the same field of investigation.* That in the present day any one in France could invest such matters as actual cautery and cupping glasses with interest, is abundant proof that there is something novel and consequently interesting in M. Gondret's application of these remedies, and that he has pursued the subject with zeal. This is the secret of his success and of the approbation he has received from high quarters: his heart is in his subject, and he consequently labours it with effect.

3. In conclusion we shall remark, that there are two classes of writers, those who write because they have something to say, and those who do so because they wish to say something. Fulness of knowledge and of thought is the inspiring genius of the one class; vanity and the love of display is the demon of the other. M. Gondret belongs to the former class; whilst Dr. Granville's present work places *him*, beyond all question, in the latter; and with this brief notice we finally dismiss it to that oblivion which (we hope) soon awaits it.†—*British & For. Med. Rev.*

We were so unfortunate as to omit giving the source whence the initial article in our last number—the valuable review of Canu and Denis on the Chemistry of the Blood—was derived. We were indebted on that occasion, as on so many former ones, to the *British and Foreign Medical Review*. Happily, none of our readers could, we believe, be at a loss to see that the article in question was selected, however they might have been in doubt as to its precise origin. It occupied the place in our Journal, which, with few exceptions, always indicated by distinctive marks and prefixes, we have allotted to selected reviews. Our own reviews and bibliographical notices are introduced in another, the concluding part of the Journal, and are displayed in a different typography, by being *leaded* in whole or in part. Some, indeed, of the notices of home matters are sometimes in solid type in the last page or so—but the subjects and allusions indicate their authorship.

[From the London Medical Gazette.]

ROYAL INSTITUTION.

Friday, 18th January, 1839.

PROFESSOR FARADAY ON THE ELECTRIC CONDITIONS OF THE RAIA TORPEDO AND GYMNOTUS ELECTRICUS.

The meeting of members appointed for this evening was the first for the season of 1839, and a numerous cohort of the votaries of science attended, attracted by the promise of a lecture from the most elegant and accurate experimentalist of the age.

Mr. Faraday commenced by stating that these evening meetings of the members had taken place during fourteen successive seasons. Within that space of time, communications had been made from the table at which he stood, relating to almost every department of science or of art. Each member or man of science

* See his Pyrotechnie Chirurgicale, ou l'Art d'appliquer le Feu, and the articles Moxibustion and Seton in the Dict. des Sciences Medicales.

† Since the preceding article was printed, Dr. Granville has published, in the Lancet of October 27th, the formulæ for the preparation of his lotions. These we shall insert in Part Third of the present Number. We hope the reasons advanced by Dr. G., in this communication, for his having deferred to make known the composition of his lotions sooner, are satisfactory to his own feelings. We take no credit to ourselves for having contributed to this event by the strictures in our last Number; and we must say that we have found nothing in his recent communication that makes us at all regret having assumed the tone which characterizes the former article, and also the present, as far as Dr. Granville is concerned.—Ed. *Brit. & For. Med. Rev.*

who had on these occasions addressed the Institution had been permitted the utmost freedom in the expression of his opinions, and had invariably experienced the liberality of the audience. He himself had been invariably received with the greatest indulgence, and, presuming upon that, he had frequently brought forward crude thoughts, which, by the encouragement of the members, had ultimately been ripened into legitimate theories. On the present occasion, when he was about to treat of a very abstruse subject—the connexion of electricity with the vital phenomena—he would lay claim to their indulgence in the interpretation of his language, and hope they would put the least objectionable meaning on any term he might use. He would at the outset, by way of precaution, state, that he did not pretend to analyse or explain the "immaterial principle of life"—an entity beyond the reach of the experimentalist. If he should accidentally use the term "life" in the course of his observations, he should mean merely the vital processes, the *effects* of the agency of this occult principle, and which he considered to be material in their character.

The shock or "physiological commotion" which certain fishes produced by contact in the animal frame, was known to philosophers at an early date, but these facts were considered as singular instances, until the dissections and experiments of Walsh, John Hunter, Cavendish, Dr. Priestley, and, more recently, of Sir Humphry Davy, Matucci, Linari, and Dr. John Davy, progressively developed the nature of these phenomena, and finally established the identity of animal and general electricity.

Sir Humphry Davy, a short period before his death, experimented upon the torpedo, but his experiments had a tendency to disprove any relation between the peculiar property of this animal and the electricity derived from friction, and from the Voltaic pile. In his last illness he requested his brother, Dr. John Davy, to continue his researches; and that gentleman being advantageously situated for the purpose (being appointed Inspector of Military hospitals at Malta, in the seas adjoining which island the torpedo abounds), performed numerous experiments on this animal, and very satisfactorily showed the identity of the active agent in the body of the torpedo with the powerful imponderable fluid which pervades inanimate nature, and exhibits its various characters in the Leyden jar, in the galvanic battery, and in the magnet. By an ingenious arrangement, Dr. Davy formed a galvanic circle with the animal. He made a wire communicate with the upper surface, and another with the under surface of the electric organ of the animal, and thus succeed in deflecting the galvanometer, in magnetizing a needle, and in producing chemical decomposition. Matucci and Linari had pursued the subject in the tract of Dr. Davy, and obtained even more important results: they produced a spark, and raised to a sensible degree the temperature of a platinum wire.

Mr. Faraday had long entertained in his mind a favourite hypothesis, that electricity was the medium through which the occult principle of vitality carried on the various processes exhibited in organized beings, and had always felt deep interest in the theories and experiments of Abernethy and Wilson Philip. He had ever imagined that what is called the nervous influence was a subtle material and imponderable fluid, analogous in some of its properties to light, heat, and electricity; and which the nerves were, by their structure, adapted to convey in the same manner as gas is conveyed in pipes, or electricity through wires. The Professor has recently experimented upon the Gymnotus electricus, now exhibited in the Adelaide Gallery of Practical Science, and the results he obtained are corroborative of the views of Matucci, Linari, and Dr. John Davy. The experiments, however, were of so delicate a nature that they could not be demonstrated to such a large assembly as that collected at the Royal Institution. Mr. Faraday therefore preferred constructing a model of the elegant and graceful animal upon which he had operated, and thus making a kind of vicarious demonstration of the electric properties of the gymnotus. This plan he had the less scruple in adopting, since several members of the institution had witnessed his experiments on the living animal.

The lecturer now performed a series of experiments with his characteristic accuracy and success, tending to illustrate the different conditions of the electric

matter under different arrangements. Thus, the electricity collected by friction on the surface of a conductor, has such great tension, that it can overcome the resistance of eight inches of air, and may be induced to the knuckle of the experimenter at that distance; whereas, in the wires of a powerful galvanic apparatus, the tension is so feeble that induction cannot be effected through half an inch of atmosphere, whilst the most important chemical, thermal, and electro-magnetic effects, are obtained from it. Thus, also, the nature of the medium through which electricity of tension is conveyed modifies its effects. A battery of eighteen large Leyden jars being charged, the lecturer transmitted the charge through a circle, a part of which consisted of fine wire, and in the course of which a small pile of gunpowder was placed. In the first experiment, Mr. Faraday interposed between the battery and the circle half a yard of moistened string. The progress of the electric matter was so retarded, through the imperfect conductor, that the resulting heat ignited the gunpowder, and the wire remained uninjured. When the battery was discharged, without the intervention of the humid string, no heat was evolved, the gunpowder was not ignited, but the wire was destroyed. In this manner the attributes of the electric matter are modified by its different conditions. A striking difference between the material reservoirs of electricity which art has constructed, and the only animals as yet discovered in which the principle exists, is the different effects of water in the two cases. In the electrifying machine the slightest moisture in the atmosphere carries away the electric matter; but the torpedo, the gymnotus, and the silurus, are inhabitants of the water, and both generate and maintain, within the limits of their electric organs, large quantities of this subtle and mobile fluid. Further research will doubtless throw light upon this apparent anomaly, and bring it within the jurisdiction of some general law.

All the recent inquirers into the nature of animal electricity have experienced difficulty in demonstrating the thermal effect. Mr. Faraday explained the nature of this difficulty with great ingenuity. The electric power of these animals is developed in repeated shocks, not by a continued current, and these shocks are so transient that the heat induced is too evanescent to be detected in a glaring manner. A Voltaic battery of great intensity, when continual contact is made between the poles, occasions a visable exaltation of temperature in the intervening platinum wire; but when momentary contact only is made, no heat is produced. Hence it appears *à fortiori*, that the thermal effect of organic electricity must be exceedingly difficult to demonstrate.

The lecturer demonstrated the anatomy of these animals on some beautifully dissected specimens, supplied to him by Mr. Owen and Dr. Grant.

Mr. Faraday first exhibited the structure of the torpedo or electric ray, in which the electric organ is double, of the shape of a kidney, and situated on each side of the spine. Each organ consists of an aggregate of membranous columns, filled from end to end with laminæ separated from each other by a fluid. In these columns, the progress of electricity is from the back to the belly of the animal. On the dorsal as well as the abdominal aspect of the organ, the only covering it has is the external common integument. The animal abstracted from the electric organ is of small dimension. Dr. Davy found in a fish weighing 2065 grains, that the electric organs weighed 302 grains. The nervous cords which supply the electric organs are of enormous size compared with those distributed to the essential and vital organs of the animal. These nerves are in all these animals derived from the fifth pair, and from the pneumogastric nerve, and bear a ratio of 9-10ths to the other nerves of the animal. The gymnotus electricus is described by Mr. Owen as a small animal with a long electrical apparatus. The electric organs of the animal consists of four columns, arranged parallel with the spine; two of these columns are of large calibre, and two slender. The membranous laminæ are arranged in the same manner as in the raia torpedo. The organs essential to the life of the gymnotus are placed in the neck, and do not constitute more than one-ninth of the length of the fish. The nervous cords distributed to the electric organs bear the same disproportion to the other nerves as in the torpedo. Matucci has shown that these nerves may be divided, not only with perfect impunity, but with improvement of the vital powers of the

animal. In certain species of ray in which the division of the nerves was affected, the animals sustained life longer when deprived of nutriment, than the unmutilated ray does under the same circumstances.

The bulk of the nerves supplied to these organs bears a direct ratio to the size of the organs, and the electric power is also directly as the bulk of the organ. Hence the electric power is always in a direct ratio to the nervous influence exercised by the animal. When the electric force of the animal is exhausted, there is exhaustion of his nervous energy, which is perfectly similar to the exhaustion attendant upon muscular exertion; and the electric power equally with muscular strength is regenerated by rest. "From these facts," said Mr. Faraday, "the inference is as conclusive that electricity is generated by nervous influence, as that heat is a consequence of certain conditions of the electric fluid; and as heat may reproduce electricity, why may not electricity reproduce the nervous power?" Having clearly shown that the electric matter emanates from nervous power, the next experiment to be undertaken by physiologists should be to invert the course of the phenomena, and when the animal is exhausted and empty of electric fluid, to charge his electric organs with that matter, and thus restore the nervous power of the animal. Experiments successfully directed to this point would satisfactorily explain the mystery in which the nervous system is at present involved, by proving it to be pervaded by a peculiar and subtle matter, whose properties when developed would unfold many of the arcana of the living system."

Mr. Faraday expressed his firm conviction that the nervous influence would be found to depend on a material imponderable substance; and he concluded by quoting a passage from Priestley, in which that ingenious investigator makes a conjecture, which appears to anticipate many of the discoveries about to be elicited. Priestley conjectured that phlogiston, after being absorbed into the animal frame, is eliminated in the form of electricity, which in most animals is confined to the individual, and expended on the several vital processes; but in others, as the torpedo, silurus, and gymnotus, is transmitted from one individual to another.

A very compact electrifying machine, constructed by Mr. Palmer of Newgate Street, was exhibited in the library, Its merit consists in converting one of the pillars that supports the glass cylinder into a conductor, thus making the apparatus of smaller size, and more portable, and removing the inconvenience attendant upon a *moveable* conductor. Idios.

ON THE VALUE OF CREOSOTE

AS COMPARED WITH OTHER REMEDIES, IN THE TREATMENT OF SURGICAL DISEASES.

By J. L. Da Luz.

The effects of creosote, says Da Luz, have been so exaggerated, that it is only necessary to reckon up the diseases in which it has been recommended, in order to become distrustful of its marvellous healing powers. Without, however, undervaluing its efficacy on this account, he thought it behoved a clinical lecturer to make unprejudiced experiments with creosote in the diseases against which it has been extolled, and at the same time to compare its powers with those of well-known remedies under similar circumstances, and thus to arrive at the most impartial conclusion possible. The following are his experiments, and the results deduced from them:—

Case I.—*Herpes crustaceus* on the inner part of the leg. Linseed poultices, and then lotions of creosote water, were employed, without benefit. A blister was then applied, and the patient was cured.

Case II.—A soldier, aged 29, came into the hospital, with his limbs and body covered with an itching eruption, called *Coceira* or *Pruritus*. Two ounces of creosote ointment, made with a drachm of creosote to an ounce of lard, were immediately applied every twenty-four hours; on the third day of the treatment the pruritus was considerably abated; on the tenth day the pustules began gradually to disappear, and on the twenty-first he was perfectly cured.

Case III.—*Herpes furfuraceus* in a peasant, aged 28. Tepid baths, bleeding, saline decoction, repeated aperients, and calomel, were employed without any perceptible effect. The juice of house-leek was now administered internally, and an ointment made with the same plant was rubbed in. The patient was cured on the twentieth day.

Case IV.—*Ichthyosis* of the right leg in a shepherd, aged 50. When this patient was admitted, the skin of the whole extremity was slightly erysipelatous—a condition which was removed by emollients in seven days, a great part of the eruption scaling off at the same time. The creosote was now employed in the form of ointment twice in twenty-four hours. Four days after the use of this remedy, pain came on, together with the most violent burning in the whole leg; and the erysipelatous inflammation extended even beyond the boundaries of the earlier eruption. The ointment was therefore discontinued, and recourse was again had to local emollient applications. When the complication had been thus removed, after the lapse of some weeks creosote was again employed, but with the same result. The experiments were thus alternated for two months, when all treatment was given up, and the herpes [ichthyosis] resumed its characteristic appearance.

Case V.—*Scabies.*—A man-servant had laboured under itch for four weeks, which was relieved by creosote lotion, (a drachm to a pound of water), and cured by the creosote ointment in three weeks.

Case VI. *Scabies.*—A boy, aged ten, who had laboured under itch for three weeks, was cured in the same period by the creosote ointment alone.

Case VII. *Scabies.*—A dirty cow-boy, who had been troubled with the itch for three months, was cured in about six weeks by warm bath and two bleedings, followed by the use of the creosote, and afterwards of tar ointment.

Case VIII. *Scabies*—A baker who had had the itch for four weeks, was cured by the tar ointment in nine days.

Case IX. *Scabies.*—A carpenter, who had been infected eight days, was perfectly cured by the tar ointment in a week.

Case X. *Scabies.*—A day-labourer, aged 20, had been afflicted with an eruption for five weeks, which disappeared after using a sulphur ointment for three days, but soon returned. He was cured in fourteen days with the tar ointment.

Case XI. *Scabies.*—A vagrant, aged 16, who had had the itch twelve days, was rubbed with common oil on the 7th of June, the day of his admission. On the 12th the itching was less, but fresh pustules came out on the fingers and wrist. The patient was washed with soap in a warm bath. Afterwards, from the 13th to the 16th, the frictions with oil were again used; the itching was now gone, and no fresh pustules had appeared. The patient now took another warm bath, the frictions with oil were discontinued, and on the 18th he was discharged quite well.

Case XII. *Scabies.*—A beggar, who was in the hospital on account of chronic ulcers of the legs, in seven days was cured of the itch which he had had five days, by repeated frictions [with oil] morning and evening, and washing with soap in a warm bath.

Case XIII. *Scabies.*—A soldier, aged 30, who had had itch on his lower extremities for six months, which had only recently extended to the rest of his body, was cured in seven days by the sulphur ointment and warm baths.

Case XIV. *Tinea.*—A boy, aged 14, had suffered from tines capitis since his eleventh year, and it now spread from his head over his whole body. After the application of emollient poultices, which loosened the crusts, and left behind large red spots, sprinkled with small confluent pustules, the creosote ointment was rubbed in twice a day. In the course of four months, during which it was only once necessary to discontinue the frictions on account of erysipelatous inflammation of the scalp, he was cured by the use of the ointment and alternate washings with soap and water.

Case XV. *Tinea capitis favoso*, [Porrigo favosa.]—A peasant, aged 17, who had suffered under this disease since his thirteenth year, without having had any treatment, was cured in something less than seven months. The treatment con-

sisted in rubbing in the following depilatory ointment, and also sulphur and charcoal ointment:—

℞ Potassæ Carb. ℥iiij. Calcis Extinctæ ℥ij. Axungiæ ℥v. M.

℞ Pulv. Carb. Cort. Sobri ℥j. Sulphur. Sublim. ℥ij. Axungiæ ℥v.

The patient was also washed with soap and water.

Case XVI. *Tinea furfuracea.*—A boy, aged 9, who had laboured under this disease for two years, was admitted into the hospital. After emollient washings and poultices, he was treated with the depilatory ointment, and then for two months with the creosote ointment, but with so little result, that the sulphureous ointment above mentioned was adopted instead, by which he was cured in eight weeks.

Case XVII. *Tinea capitis.*—A boy, aged 10, whose head was covered with roundish spots of porrigo, somewhat raised, was cured in three months with emollient washings and poultices, and rubbing in an ointment three times a day consisting of sweet olive oil and spermaceti, which was occasionally washed off with soap and water.

Case XVIII. *Tinea granulosa.*—A mule-driver, aged 18, came into the hospital on the 13th of March, 1836, suffering under this disease. After the usual cataplasms and the application of the depilatory ointment, he was rubbed with the creosote ointment, and washed with soap and water alternately for two months, but was dismissed after five months' treatment, but little relieved.

Case XIX. *Ulcer.*—A day-labourer had an ulcer on the leg, four inches in circumference, which was treated with creosote water for five weeks without advantage, and then cured by Bell's method.

Case XX. *Ulcer.*—A day-labourer, aged 50, suffering from chronic ulcer of the leg, was treated for sixty days with creosote water without advantage, and then cured in three weeks by Baynton's method.

Case XXI.—A day-labourer, aged 48, had had a syphilitic eruption for eight months, which spread over the whole body in the form of distinct and elevated crusts, and at the same time he had a considerable ulcer of similar appearance on the left leg. After the use of Brugnatelli's anti-syphilitic rub for eighteen days, the crusts disappeared from the rest of the body, but the ulcer on the leg became very sensitive, was covered with a thick, pulpy, lead-coloured skin, extended considerably, and put on the appearance of hospital gangrene; the general state of the patient, however, was favourable. The ulcer was now besprinkled, twice a day, with powders, consisting of sugar and camphor, on which violent pain came on, and the extent and bad appearance of the ulcer increased, with the addition of fever and tenderness about the præcordia. Labarraque's solution was now used externally, and an infusion of linseed internally; but the pain continued unabated, and the gangrene extended over the whole of the muscles of the calf. Creosote water was used for dressing, and a saline mixture internally; but the ulcer continued to spread. Pure creosote was now applied to the ulcer, on which the pain diminished, inflammatory reaction showed itself within the ulcer, the gangrenous parts gradually came away, and in three weeks the ulcer began to cicatrize.

Case XXII. *Condylomata.*—A man-servant had condylomata around the anus, in the folds of the sphincter; and they suppurated a little. Hip baths were first employed, and charpie was applied; on which the pain and suppuration disappeared, but the excrescence remained unaltered. Charpie dipped in creosotic water was now applied, and as this was of no use the warts were touched with a hair-pencil dipped in pure creosote: this produced excoriation, without affecting the condylomata. Solution of corrosive sublimate proved useless; but cauterization with pure nitric acid was advantageous.

Case XXIII. *Condylomata.*—The creosote was equally useless in a sailor, who, besides other syphilitic symptoms, had large condylomata on the anus. It merely produced inflammatory excoriations, and forty days after its first application the condylomata were still unaltered.

Case XXIV. *Abscess.*—A boy, aged 15, had been in the hospital twenty months with a white swelling of the hip-joint (*coxalgia*). Suppuration had taken place, and three fistulous openings had formed, which poured forth a quantity of

fœtid and serous pus. When the inflammatory symptoms arising from the opening of the tumor had ceased, creosote water was injected experimentally. This caused pain in the joint, which afterwards went off, but the pus retained the same appearance. Although the creosote water was made stronger, and continued for forty-five days, the condition of the patient remained the same.

Case XXV. *Abscess.*—A boy, aged 10, had a similar disease, and the creosote was equally useless.

Case XXVI. *Abscess.*—A day-labourer, aged 19, was admitted with an abscess arising from congestion, on the shoulders near the dorsal Vertebræ. The swelling was small, not painful, and had no perceptible fluctuation. The cautery was firs applied at the sides of the diseased part, in order to remove the cause of the abscess, which seemed to be fixed in the spinal column; but the tumor increased to the size of a large orange, began to show evident fluctuation, and was opened by means of caustic potash, at the spot where there was inflammatory redness of the skin. The suppuration was very copious, and as it continued for twenty-two days, creosote water was injected, and continued for thirty days, without the suppuration diminishing in the least.

Case XXVII. *Bubo.*—A soldier of the municipal guard was admitted with two open and suppurating buboes; the skin over the glands were detached, livid, and very thin. Two days after his admission, the left bubo was dressed with creosote water, and the right with dry charpie, and a graduated compress put on. The right bubo cicatrized earlier than the left.

Case XXVIII. *Caries.*—A boy, aged 9, was suffering from caries of the bones of the tarsus of the left foot. The soft parts had swelled as far as the malleolus, were very sensitive, and had two openings on the upper part of the tarsus. A probe went deep into the substance of the os cuneiforme and the calcaneum. After the patient had been treated for four weeks with cataplasms and emollient foot-baths, his condition remaining the same, the creosote water was used; the sores were washed with it, and then also injected into the lowest fistulous openings; but its chief effect was only to cause inflammation, and it was therefore requisite to omit it several times, and to substitute emollient poultices. At the end of two months the carious affection was not a bit better, and the general state of the patient was worse.

Case XXIX. *Traumatic hemorrhage.*—In tying the carotid, the external jugular vein was injured, and such profuse hemorrhage took place that it was necessary to discontinue the operation. Light compresses were of no avail, so that it was requisite to tie the vein; but whether from the hardness of its texture or from the direction in which the orifice of the vessel lay, even this powerful expedient failed. A fresh ligature was put on, but the blood continued to flow. A sponge dipped in a strong solution of creosote was now laid upon the centre of the wound, and the hemorrhage stopped instantaneously, so that the operation was completed without much difficulty.

Case XXX. *Hemorrhage.*—In drawing through the thread with Scarpa's needle, to tie the crural artery for an aneurism in the middle of the thigh, profuse arterial hemorrhage took place at the very moment the instrument was crossing the vessel which was to be tied. The blood rushed from the wound in so great a quantity, that in all probability some important collateral vessel had been included in the ligature. Although the ligature was pulled firmly, the blood continued to flow with the same violence. The hemorrhage was stopped by compression, but returned as soon as it was withdrawn. The hemorrhage, however, ceased immediately on the introduction of charpie steeped in a strong solution of creosote (a drachm to three ounces of water). Fourteen days afterwards the wound was freely suppurating and the granulation healthy. On the fifteenth day there was hemorrhage from the wound amounting to twelve ounces; it ceased spontaneously, but the creosote was again applied. On the sixteenth day the hemorrhage recurred, the creosote proved useless, and prolonged swooning followed by death.

Case XXXI. *Hemorrhage.*—A fisherman, aged 20, was admitted with a spongy polypus, which filled the whole of the right nostril. During its extirpation with the common polypus forceps, there was considerable hemorrhage, as is

frequently the case in this operation; but when it had been completed, and cold lotion had been applied with a plug and compress, the dressings were so soaked with blood in a few moments, and the blood poured forth from the throat in such quantities, that the pulse sank extremely, and the patient fell out of one fainting fit into another. Under these circumstances, and while the blood was streaming from the nose, small rolls of charpie steeped in creosote water were put into the nose with a pair of forceps. Immediately on the introduction of the charpie the bleeding diminished; and when the nostril was quite filled with it, the hemorrhage ceased entirely. Six weeks afterwards, the extirpation was repeated; an equally violent hemorrhage again took place, but was quelled by the creosote as quickly as the first time.

From these cases, with which many in his private practice accord, Da Luz comes to the following conclusions:—

1. In indolent eruptions, not very extensively diffused, creosote is not more efficacious than other remedies.
2. The long-continued use of this remedy often causes an inflammatory condition, which, however, has nothing in common with that of the disease which is to be cured.
3. In itch, creosote is as efficacious as sulphur, tar, and common oil.
4. In tinea it is not more powerful than the preparation of sulphur and emollient remedies in certain cases, and depilation practised according to Mahon's method.
5. It is an excellent cleansing remedy in atonic ulcers, but its prolonged use hinders cicatrization.
6. In hospital gangrene it is the best antiseptic, and the most powerful means of checking this frightful complication of wounds and ulcers.
7. Those condylomata, which are neither cured by emollient and tonic remedies, nor by solution of corrosive sublimate, are not cured by creosote.
8. Creosote has no marked influence on the secretion of pus, and therefore is useless in suppurating abscesses.
9. It has no power against caries.
10. It is an excellent styptic in capillary hemorrhage; but in hemorrhage from great vessels, particularly when it proceeds from suppuration of the arterial coats, it does not prevent a recurrence of the bleeding.—*Zeitschrift für die gesammte Medicin*, for September and October 1838, from the *Jornal da Sociedade das Sciencias Medicas de Lisboa.*

ON DEFORMITY OF THE CHEST IN YOUNG CHILDREN,

FROM DISEASE OF THE LUNGS.

To the Editor of the Medical Gazette.

Sir,—If you should consider the following remarks worthy of notice, the insertion of them in the Medical Gazette will much oblige

Your obedient servant,
George A. Rees.

5 Artillery Place, City Road, Dec. 31, 1838.

There is a deformity of the chest met with in infants and young children occurring in connexion with disease of the lungs, though not of very rare occurrence, I do not recollect to have seen described. The deformity consists in a depression existing at the line of union between the ribs and their cartilages, in consequence of which the arched form of the front of the thorax is lost, and a channelled appearance external to the sternum on each side produced.

Accompanying such deformity, there is an altered movement of the ribs in breathing, and there are well-marked symptoms of lesion of the organs of respiration; the infant suffers habitually from shortness of breath and a short dry cough, when attacked with any bronchial affection is not in itself of a dangerous character—bronchial irritation, for example, to which they are peculiarly liable—the usual quick breathing becomes hurried, the pulse much accelerated, the countenance assumes a livid hue, and the appearance of the child indicates a severe form of pulmonary disease.

The following is a very slight sketch of a case of this kind, which, though imperfect, will, I think, best illustrate the description, and serve as an introduction to the remaining remarks:—

James Goullee, aged eleven months, was brought to me in the month of April, labouring apparently under severe inflammation of the lungs; there being great difficulty of respiration—amounting to dyspnœa, acceleration of the circulation, pulse 122, short dry cough, lividity of the countenance, dilatation of the alæ nasi, &c. On applying the ear to the chest, I detected no indications corresponding to the severity of the symptoms; slight crepitation of a large character over the central portion of the lung alone being observable.

The parent informed me, in her history of the case, that the infant was born lively, and continued well and thriving to the age of two months, at which period it began to decline; shortness of breath and a cough, more or less considerable at intervals, having continued from that period, with occasional attacks resembling the present.

The child being undressed, I found the body emaciated, the abdomen tumid, and the chest presenting the deformity above described; but what struck me principally, as explaining the great difficulty of breathing in comparison with the slight *perceptible* disease of the lungs, was the altered movement of the ribs in respiration; at the moment of inspiration they being forced inwards instead of drawn outwards, and thus the size of the thorax transversely diminishing instead of being augmented.

For a time the little patient seemed relieved by the treatment adopted, but a fresh attack supervening in the month of May terminated fatally.

At a post-mortem examination I found, on opening the chest by cutting through the ribs a little posterior to their cartilages, a projection inwards, corresponding with the depression externally. The central lobe of the right lung, and a great part of the lower lobe over the left side, were converted into a dense, firm texture, sinking in water, of a purple colour, resembling most nearly lung having suffered from compression, after effusion in the pleura, or from chronic pneumonia. It corresponded pretty accurately with a drawing by Dr. Hope, in his work on Morbid Anatomy, given as a specimen of the effects of chronic pneumonia. There was also injection, but slight, of the bronchi; the pluræ were healthy; there were no tubercles. The abdominal viscera presented no marks of disease.

I have met with and examined four other cases of this kind within the last year, out of nearly 5,000 children seen by me at the Tower Hamlets' Dispensary for Children, a description of which, as regards the symptoms and post-mortem appearances, would be almost exactly similar to the foregoing, except that the deformity of the chest was not in all so considerable, was in general more perceptible on the right side, and that the age of the patients varied, the oldest being two years and a half. From one of these cases I took, and still retain, a portion of the ribs and their cartilages, showing the deformity, and also the right lung, nearly the whole of which presents the morbid appearance already described.

The impeded respiration in these children exerts a baneful influence on sanguification and nutrition, and hence they soon assume the appearance of rickety children, and are often considered in a decline. It is, however, worthy of remark, that no tubercles were present in either of the cases, and that the mesenteric glands were enlarged only in two, and in these not considerably.

It appeared to me at first questionable whether the lesion of the lungs, or contraction of the chest, was the primary affection in these cases. It seemed probable that the altered movement of the ribs was the result of the deformity of the chest, and that the lung was altered by compression; I now, however, entertain no doubt that the lung is primarily affected, and that its lesion causes the abnormal contraction of the thorax in respiration, and, subsequently, the deformity in question. I am led to this opinion, because,—

1st. I have seen cases where there has been the altered movement of the ribs without the deformity; nay, these cases are by no means rare, and in them symptoms of pneumonia of a subacute character, are present, and I have detected in such small crepitation on listening to the chest.

2dly. I have seen this altered movement more considerable on one side than the other, thus indicating the lung principally affected.

3dly. Cases where the altered movement of the ribs alone was apparent, and no deformity, have recovered, and the ribs resumed their normal movement as the lung became healthy.

4thly. I have seen the deformity in the course of the disease showing itself, and becoming more apparent as that disease progressed.

Hence I am led to believe, that the disease of the lungs is the primary affection; as to its nature, I consider it to be chronic pneumonia.

It is with great diffidence I give this opinion, knowing what Andral, Laennec, Chomel, and others, have said as to the rarity of its occurrence, but I know not what other disease would cause the change of structure perceived, and probably their examinations were confined to, and consequently their remarks refer to, the adult subject. These cases will only be found in the very young subject, where the ribs are most flexible; in after-life, where the ribs are firmer, no such state of things can occur.

Allow me to suggest the following explanation of the phenomena; the lung, in chronic pneumonia, becomes shrunken, as well as solidified; therefore, when the diaphragm contracts in inspiration, either one of two things must occur, either the descent of the muscle must bear an exact relation with the limited expansion of the lung, or the space which would result from its descent, the lung not expanding, must be filled by a temporary contraction of the walls of the chest; in the adult subject the former of these would take place; but, in the infant, the flexible ribs and their cartilages readily yield to the contraction of the muscle within, and to the atmospheric pressure from without; and hence the altered movement of the ribs. At a later period the deformity of the chest establishes a relation between the containing and contained parts.

Where the deformity is well marked, as far as I have seen, the patient never recovers; it seems as if the permanent inversion of the ribs prevented the lung from resuming its healthy state, even after the disease has been checked; where, however, the altered movements of the ribs alone exists, small doses of mercury, with the application of counter-irritants, will succeed often in subduing the inflammation; and the evidence of improvement will be in the movement of the ribs becoming natural during inspiration, the parietes of the chest, in these cases, proving a source of diagnosis as to the state of the organs within.

IRRITABLE UTERUS.

To the Editor of the Medical Gazette.

Sir.—I forward for publication in your valuable journal the following case, which appears to me to be an important one, inasmuch as it shows that in the female sex the uterus is sometimes the source of those painful, local, nervous affections that simulate structural diseases in different parts of the body; or at least that remedies which had the effect of restoring that organ to a healthy state, were, in one severe case of the above description, the means by which a cure was accomplished, after every other plan of treatment had been tried in vain.—I am, sir.

Your most obedient servant,

John Brown, C.M.

Her Majesty's Victualling Yard, Deptford, Dec. 24, 1838.

A young lady, who had suffered for a great length of time from pain in her back and partial paralysis of the lower extremities, was brought to London, in the summer of 1837, for the benefit of medical advice. While she was in the country, various plans of treatment were tried for her relief, but without the least benefit; and at the time I first saw her, which was immediately on her arrival here, and about two years and a half after the commencement of her illness, she said that her complaint began with a throbbing in her left foot, which gradually extended up the leg as far as the back, and was followed by severe pain in her stomach and right side, which continued for several hours, and then went off, leaving her

in a very languid state; that paroxysms of this kind succeeded each other, at short and irregular intervals, for the space of eighteen months; that she had often, during the above period, hysterical fits of the usual description; that there was also great uneasiness, with a sensation of throbbing, in her back; that she often suffered much from pain in the abdomen, particularly around the umbilicus that a great many remedies had been tried for her relief, but without any good effect;—on the contrary, that the pain in her back at length became so constant and severe as to lead her medical attendants to conclude that she was labouring under a disease of the spine, and that she was accordingly cupped, blistered, and kept in the horizontal position for a great many months, but without any benefit whatever.

At the time this patient came to town she could not walk, nor even stand, in consequence of the pain in her back and weakness of her limbs. I therefore carefully examined the spine, but could perceive no mark of structural disease there; indeed the poor girl complained just as much when the skin was merely touched as when forcible pressure was made upon the vertebræ. Hysterical fits at that time, she said, came on twice or thrice every day. She also stated, that when she attempted to sit up, she felt an unpleasant weight in the lower part of her belly, with a sensation of bearing down, and that she had always pain and difficulty in passing the fæces and urine. On examination *per vaginam*, which I considered to be necessary, in order to enable me to ascertain the real nature of the case, I found that the uterus was very low down; and upon mentioning this circumstance to the patient, she admitted that that organ had several times partially protruded beyond the external parts. It was also in a highly irritable state; indeed the mere touch of the finger gave great uneasiness, and brought on one of the most violent paroxysms of hysteria I ever witnessed. There were occasionally, too, a profuse leucorrhœal discharge; but as the displacement appeared to me to be the point which required to be first attended to, in order to remedy that, I put a piece of sponge into the vagina, but so great was the irritability of the parts that its presence there could not be borne, and I was consequently obliged instantly to remove it. Under these circumstances, conceiving that the affection of the back and paralysis of the limbs were, in some way or other, connected with the irritable state of the womb—a state which the patient said had existed from the commencement of her illness—I directed strong anodyne injections to be frequently thrown into the vagina, which, in time, produced an excellent effect. Astringent injections were next employed with advantage; and, at last, a solution of the nitrate of silver was in this way used, which, by degrees, diminished both the leucorrhœal discharge and the irritability of the uterus, and in the end entirely removed them. As soon as this change in the state of the parts was effected, the usual treatment for the prolapsus was had recourse to, and the girl then began rapidly to improve.

But during the time that this local treatment was being followed, the constitution was not neglected. The physical powers of the system in this case were very low. The patient had a weak pulse; her appetite was small; her muscles soft, flabby, and relaxed. She suffered much from coldness of her hands and feet; and, as hysterical paroxysms at the commencement of the local treatment were very frequent, anti-spasmodic medicines were prescribed, particularly the tincture of assafœtida, to which, however, she at first strongly objected, on account of the nauseousness of its fœtor; but, after having taken it for a short time, she either acquired a taste for it or experienced so much relief from its use, that always, upon the least symptom of the approach of a paroxysm, she flew to the loathsome draught with avidity, and drank it off without any apparent reluctance. Tonics, too, were from the first prescribed. The compound infusion of gentian, the disulphate of quinine, the sulphate of copper, and the tincture of muriate of iron, were all, by turns, taken in proper doses, with benefit. The cold shower-bath was also had recourse to; and, although the patient's constitution was certainly very weak, the shock was followed by no unpleasant effects; on the contrary, she always experienced, after using the bath, a comfortable glow of heat over her whole body, with a considerable increase both of bodily and mental energy.

Under the above treatment the patient gradually recovered; indeed, as soon

as the irritable state of the womb was removed, she began to walk about, and in the course of a few months she could accomplish a distance of three or four miles with but very little fatigue. She, however, remained about a year under my care, and in July last returned to her parents, who reside at Plymouth; from whence she now writes to me, and informs me that her health is good, and that, notwithstanding the season of the year, she frequently takes a cold salt-water bath with decided benefit.

USE OF THE STOMACH-PUMP IN APOPLEXY.

To the Editor of the Medical Gazette.

Sir,—You will oblige me by inserting the following remarks, for which I do not claim so much originality, as the consideration from many of my professional brethren of cases often looked upon as hopeless.

It has more than once been my lot to have witnessed diseases about to terminate in death—when the *power of swallowing* is entirely lost, or so oppressed, that if not forcibly aroused into action, it may be considered so—when, nevertheless, by the introduction of stimulants through the pipe of a stomach-pump, or any suitable instrument, the person may be rescued from the very jaws of death. Such circumstances of approaching and certain dissolution present themselves in many cases of apoplexy from deranged stomach, and in those of sudden prostration of the vital power, occurring in persons of advanced age. Allow me, for the sake of illustration, to give you an example of each of these.

I was called in to a gentleman who, after a hearty meal, was attacked with the symptoms of apoplexy. Salt and water having been given to him, and failed in inducing vomiting, the fauces were irritated by means of a feather—and succeeded. He became, however, worse, and entirely lost the power of swallowing. This was in the evening. At 6 o'clock in the morning he appeared to be in *articulo mortis*, and I thought that before the two medical gentlemen, who had seen him with me on his first seizure, and who were again to visit him at half-past nine, arrived, my patient would be no more. But he rallied towards 8, and when they met, more hope was entertained of his life than when they saw him last.

At 11 o'clock, however, he began again to sink, and at 12 o'clock at night died; the power of swallowing never having returned after 7 on the preceding evening. I mention this to give weight to the conviction which I now express—that had wine-whey been judiciously given him, by means of a suitable instrument, and after vomiting had been produced, he would not have died.

Of the second form of disease—viz. sudden prostration of the vital powers, in persons advanced in life, the following is an illustration. Mrs. ——, 80 years of age, was seized suddenly by what appeared to be paralysis. Her usual attendant living at some little distance, I was also sent for. Her hands and feet were cold, and the pulse scarcely discernible. I tried to get a few spoonfuls of brandy and water down the throat, *but no effort was made to swallow it*, and it flowed out again over the mouth.

As I lived close at hand, my stomach-pump was soon brought me, and I passed the pipe over the back of the fauces. This irritation induced an attempt at deglutition, which I immediately took advantage of, and gave her the brandy and water. She recovered, and never did I witness a narrower escape from death. I am quite satisfied, that had she not taken that brandy she would not have been now living.

To conclude, I do not think this treatment is to be confined only to cases of the nature I have mentioned. I have not given other illustrations, because I fear to occupy your useful pages longer; neither do I wish to consider myself as the only person who has thought of or adopted such a method of treatment; it may have been carried into effect by others; but I have not known it to have been done here, and it may not generally be thought of. Should these remarks draw others to the consideration of such a mode of preserving human life, my object will have been answered, and you will not have been troubled in vain.

I remain, sir, your obedient servant, John Parkes.

2, Church Street, Edge-hill, Liverpool, Jan. 9, 1839.

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A Memoir on the Section of the Tendo-Achillis, in the Treatment of Club-Feet. By Dr. Bouvier.

This erudite memoir is published in the 7th volume of the memoirs of the Royal Academy of Medicine of Paris for 1838. The importance of the subject seems to have all at once greatly engaged the attention of nearly all the medical and scientific bodies of Europe, as well as that of many eminent surgeons. As but very few of your numerous readers have access to these memoirs, we propose giving a condensed view of the contents of that of Dr. Bouvier which, we doubt not, will be acceptable to them from the important matter that it contains.

The first object of the author is to establish the general division made by classic authors of the different kinds of club-foot into the three appellations of "*varus*," "*valgus*," and "*pes-equinus*," as well as the peculiarities and pathological character of each kind. He next treats at length of the *cause* of congenital club-foot, and dwells on it through many pages, by citing the various and contradictory opinions of authors of all ages and countries. These may be classed under four different heads. 1st. Those who ascribe the cause to a pre-existing vice in the formation of the germ; 2dly. Those who ascribe it to a mechanical pressure or influence; 3dly. Those who consider it owing to a malady occurring during the uterine existence of the fœtus, 4thly. To a stoppage of a regular development of the parts involved in the deformity.

We would add, as we have in several instances observed, that hereditary influence has something to do with this kind of deformity, although, perhaps, we can instance as many cases in which one of the parents has a club-foot, and still the progeny is entirely exempt from it, or, if at all affected, one or two only of the children out of many are deformed.

"Whatever may be the conclusion arrived at in this difficult question, the analysis I have presented of the nature and principal varieties of 'club-foot' clearly shows that the knowledge of its *first cause* is much less important to the practitioner, than the *consecutive state* in which the foot is found at the period of birth or afterwards. Be the shortening of the muscles and ligaments primitive or secondary; be it owing to an excess of contraction of one class of muscles, or to the relaxation of their antagonists; whether the displacement and deformity of the bones follow, or precede the retraction of these organs; nevertheless, it is true that the deviated parts do not maintain themselves in their abnormal situation, and that the indication to be fulfilled in order to straighten these parts consists in the lengthening of the fibrous and muscular organs which hold them flexed. It is only in old cases of club-foot that the obliquity of the bones, and, above all, the rough state of one part of their articulating surfaces contribute to hold them in their vicious position, and add new obstacles to the re-establishment of the deviated parts into their natural relations."

The muscles that mostly require to be lengthened belong to the class of the extensors. In the greater number of cases their simple extension suffices, when taken early after birth, for the cure even of the *pes-equinus*, and greatly advances the radical cure of the *varus*. Hence the utility of the *distention*, and in extreme cases of the *division*, reunion, and elongation of their common tendon, the

tendo-Achillis, because it is the one that presents the strongest opposition to the return of the foot to its natural position.

The history of this operation, simple and easy as it may *now* appear, is curious, because it shows how very slow the human mind is in adopting even the most evident facts; and how very slow the profession is in giving currency to them, by putting on them the stamp of experience and approbation. Its utility in orthopedic surgery, and its influence on the practice of surgery in general, is *now* made too evident to require any demonstration.

The first case of the division of the *tendo-Achillis* for the cure of club-foot, is the one recorded by Thilenius, a physician, residing near Frankfort, only published in 1789. Lorenz is the surgeon who performed the operation which took place in 1784. He simply divided the whole skin, tendon, and every thing that came in his way, at right angle through till the foot yielded; then the foot was bandaged in its flexed position. The subject was seventeen years old. It was a congenital varus of a very bad kind. Six weeks after, the cicatrization was complete.

The next in order is the publication of Dr. Michaëlis, of Marbourg, in 1811. It is a memoir on the *partial* division of tendons. The division made by him was never a complete one, because he feared the non-reunion of the two ends; he wished only by this *partial section to facilitate* the *distention* of the remaining undivided portion by mechanical means. He has *not* described his manner of operating, or the apparatus used, if any was employed.

Sartorius published a case in 1812, in which he had performed (in 1806) the entire section of the tendo-Achillis on a boy, thirteen years old. It was not a congenital *pes-equinus;* but the deformity, although similar to it, had been produced by an abscess formed in the posterior soft parts of the leg. The deviation was very great, and the patient walked on the dorsum of the foot, the toes being turned under and backwards. Sartorius' operation in this instance was violent and cruel. The case was republished in the Gazette of Salsbourg in 1813.

The publication of these few cases should have been sufficient to seriously and strongly fix the attention of the profession on them, and on the important facts they disclosed; but they were allowed to remain unnoticed, or only to be ridiculed by even some eminent authorities, and disregarded by the whole profession; and thus this important fact was permitted to have no influence on the *progress* of surgery, until Delpech, professor of surgery at Montpelier, and owner of one of the finest and most extensive orthopoedic establishments in Europe, FIRST revived, in 1816, the operation of the division of the *tendo-Achillis* for the cure of a *pes-equinus*, in a subject in his seventh year. However, this case was only published in the clinical surgery of Montpelier in 1823, and Delpech, like his predecessors, was unjustly and severely criticised for this operation. When we proposed this same operation in 1831, we had to endure the same fate, from professors from whose eminent talents and greater experience we were entitled to expect more knowledge and encouragement.

Delpech was the first operator who avoided dividing across the entire skin covering the tendon, as had been done by his predecessors, and who pointed out the importance of this plan, and of wounding, as little as possible, the skin covering the tendon. To his inventive genius, also, we are indebted for an

excellent apparatus for holding the foot after the operation, in order to distend the tendon *after the reunion* of its ends by an intermediate tendinous substance, these divided ends having been allowed to remain in contact with each other until the reunion had taken place. This method, as a general rule of operating, may be considered erroneous; but the particular case in which Delpech employed it, proves to us, in a more evident manner, his discriminating medical tact and judgment. We have already given an abstract of this operation in your number of July, 1838, page 347, and therefore shall not dwell on it any longer.

It will be here proper to state, as a matter of medical history, that so far back as June, 1831, the author of this analysis proposed to divide, *according to, and in imitation* of, Delpech, the *tendo-Achillis* of Miss Powel of this city; and when he was called upon by the parents to perform the operation, and had made every preparation for it, Dr. William Gibson, professor of surgery in the University of Pennsylvania, was secretly consulted, and gave it as his decided opinion, that "it was a dangerous operation," and advised the parents "*not to have it performed.*" The father, acting on this high authority, gave us notice that he wished us to abandon the idea of dividing the tendo-Achillis, and assigned this as the *only reason* for thus relinquishing it. We were thus prevented from repeating, immediately after Delpech, this operation, which was soon after to receive the approbation of the most learned medical bodies of Europe. We were deterred, for a long time afterward, from proposing the division of the tendo-Achillis, even in cases of *pes-equinus*, in which we were convinced it would have been of the greatest utility, simply because we feared to have to contend again with the opinion of professors whose authority would inevitably overpower that of the *young* practitioner; we therefore resorted to a more tedious method, but which to our astonishment proved successful, even in the most deformed *congenital cases of pes-equinus of adults.* We mean the persevering employment of mechanical means, or of machines properly modified to suit each individual case.

However, the opposition to performing this operation *had one good result*, that of having convinced us of the possibility of overcoming the *greatest congenital deformities in the young subject without the use of the knife;* and that this latter is but seldom required even in the adult, when the patient perseveres sufficiently long in the use of an appropriate apparatus.

On the other hand, Dr. Physick was opposed to the employment of machines altogether. This we ascertained from a conversation we had with him while in consultation for a patient of ours. His reasons were, that machines at best always impeded the natural motions of the body, and that they acted on many points as ligatures, and therefore did more harm than good. We were *then* convinced of the correctness of this opinion; and these ideas had been early imbibed by us at his lectures, and had guided us in the construction of our various machines, so as to avoid these injurious consequences in their employment.

The first notice taken in the medical journals of this country of this operation, is in the 29th number (November, 1834,) of the American Journal of the Medical Sciences, page 247. This notice is headed: "*Treatment of the club-foot, by dividing the tendo-Achillis; a new operation.* BY DR. LOUIS STROMEYER." This notice was republished in the *Gazette Méd.* in September, 1833, and then extracted from *Rust's Mag.*, vol. xxix. We are thus particular in these dates, to show that we had proposed to perform in this city this operation long before

Stromeyer's publication, although his first operation was performed in February, 1831, about the same time that we were preparing to do the same thing in this country.

From this period the operation was repeated by surgeons of almost every country, in most cases with great advantage, and it has now become a common-place one, as natural as it is simple, easy, certain, and harmless; so much so, that in several instances that have come to our knowledge, surgeons have been induced to perform this operation when it would have been better to have been dispensed with; but the operator could not resist the desire of augmenting the *number* of the tendons he had cut in the course of a year. In a letter to the editor of this Journal, we feared and anticipated this injudicious proceeding; and so early as July, 1838, we remarked, that "although I have early been an advocate for the division of the *tendo-Achillis* in those cases for which no apparatus could produce a complete cure, as in extreme cases of '*pes-equinus*,' I greatly fear that hereafter this operation will be resorted to in many instances in which a simple and appropriate machine would suffice, and would produce a more perfect cure."

Stromeyer himself relates, in the first case in which he performed this operation of the division of the *tendo-Achillis*, he only divided it after he had tried *for a year*, and to advantage, *the judicious use of an apparatus*. He left this operation as a last resort, even in difficult cases; for, in most cases, an appropriate apparatus *must* at last *be used* for months after such an operation, to retain the parts in their natural relative position, in order to allow the organs that are to hold them to acquire sufficient strength.

It was only in February, 1835, that Bouvier, and Berard, and Duval *performed* their respective first operations of the division of the *tendo-Achillis* in Paris.

But to Mr. Bouvier, the author of this learned memoir, we owe many valuable improvements in the manner of performing the operation, as well as for his experiments on animals, to ascertain the distance at which the divided and separated ends of tendons would reunite, although not in contact, and the nature of the intermediate ligamentous substance that fills the vacant space between the divided ends.

I was preparing a series of experiments to ascertain these same doubted points, and incontrovertibly establish them, when this memoir was received from Paris.

Bouvier's experiments establish, 1st. That it is not necessary that the two divided ends of the tendon should be in contact, in order that they may unite, as had been believed by Michaëlis, Delpech, Stromeyer, &c.

2d. That a reunion has been obtained, even when the divided ends were at the distance of two inches and a half, without averring, that the reunion may not occur at even greater distances.

3d. That the intervening substance is not of the fibrous pearly tendinous nature of tendons, nor is it a plastic lymph; but that the substance, filling up the vacant space, and constituting the cicatrix, is composed of a condensed cellular tissue. This was also the opinion of Meckel, Bichat, Béclard, and others.

We perfectly remember that, so far back as 1827, Dr. R. L. Fearn, of Alabama, then a resident physician at the alms-house, divided the *tendo-Achillis* of a sheep, and, on killing the animal a few months afterwards, this organ was found perfectly

reunited. This preparation is now deposited in the museum of the University of Pennsylvania. This experiment, together with the knowledge of the fact that horses that have had the ham-string cut, and that the harvest-man whose *tendo-Achillis* has been divided by a violent blow of any sharp instrument, recover the use of the parts notwithstanding the violence by which they had been divided. These facts, together with Béclard's opinion on the nature and reunion of tendons, would have been sufficient in themselves to suggest to us the utility of such an operation, had even Delpech's experience not been in our possession to enlighten us on this subject.

We shall here give the important parts of the various experiments performed by Dr. Bouvier:

"I have studied," says he, "more minutely and ocularly on animals the mechanism of the process that reunites tendons. Having cut the extensor tendon of the foot of several dogs, which were afterwards killed at different epochs, I have been able to observe the successive transformations by which a new tendinous tissue is reproduced. On examination I have found, from the *second* to the *third day*, that the cellular sheath of the tendon was thickened, and more consistent than in its natural condition. This sheath forms a kind of canal, opened only on the side through which the instrument has penetrated, and embracing at both its extremities, the ends of the divided tendon, which project into its interior. The internal surface of the canal, greatly ecchymosed and almost uniformly discoloured by a lively red tint, is everywhere in contact with itself, or with the extremities of the tendon, which on their surface present the same hue.

"On the ninth day, the sheath of the tendon constitutes already a tolerably strong tie, which adheres at its two extremities; its substance, of a grayish colour, less white than that of the tendon, does not yet present any fibrous structure. Its canal is collapsed, and presents no longer any aperture: even the one made by the instrument has completely disappeared. Mostly this canal is empty, and its internal surface, of a deep red colour, is in contact with itself.

"On the twelfth day, the density of the intermediate cellular substance has much augmented; the canal has a tendency to be obliterated; the ends of the tendon are yet distinct from this substance, which adheres to them, however, in a greater extent of surface.

"On the eighteenth day, the new substance has the form of a cord of the same volume as the tendon, the ends of which strongly adhere to it, although the appearance of each is perfectly distinct. Its canal has almost entirely disappeared; its tissue, dense, slightly infiltrated with a serous liquid, begins now to present a fibrous structure.

"On the twenty-fourth day, the intermediate substance is very much like the fibrous tissue. I have found it of a smaller thickness than the tendon itself, the ends of which had a considerable enlargement, which rendered the new substance still more evidently distinct. This enlargement of the two ends does not belong to the tendinous fibres themselves; but to the prolongation of the new fibrous tissue which insinuates itself in their interstices, and which may be considered as tumified and hardened cellular tissue by too intense an inflammatory state. These enlargements are, however, considered merely accidental in this case; for they were not observed in other animals examined. The tendinous cicatrisation, nearly two inches long, nevertheless, enjoyed a great power of resistance; it adhered solidly to the tendon with which its fibres seemed to be continuous. There no longer existed the smallest appearance of the inflammatory process that had produced it.

"Finally, in a tendon that had been cut thirty-five days before the death of the animal, the intermediate cicatrix was perfectly continuous with the two ends, although the new tendinous and fibrous substances were yet very distinct from each other.

"On another animal, killed seventy-six days after the section, the tendon presented nearly the same appearance as the preceding one, with this exception, that the intermediate substance was even more solid."

These facts appear to us to demonstrate that the formation of the new tendon

is owing to the surrounding cellular tissue, which at first is converted into a canal with contiguous parietes, gradually changing into a solid cord of fibrous substance, which, although not exactly of the same nature of the tendon whose place it supplies, nevertheless, in all known cases, has proved entirely sufficient to fulfil the function of this organ.

Two causes concur to form the close union of this cord with the two ends of the divided tendon; 1st, the natural adherence of the cellular fibres from which it proceeds with the external surface of the tendon; 2d, the accidental adhesion of these fibres to the two ends, either with the cellular tissue contained in their thickness, or with the tendinous fibres themselves. It is a phenomenon, similar to the formation of the fibrous cicatrices of muscles, nerves, arteries, patella, &c., &c. But the remarkable part is, the force that in the course of time this cicatrix acquires. On several patients that we have examined at periods more or less remote from that of the section, this solidity was such that, with great difficulty, we could distinguish, by means of the touch, the place where the tendon had been divided. J. T.

The Dental Art. A Practical Treatise on Dental Surgery. By Chapin A. Harris, M.D., Surgeon Dentist. Baltimore: Armstrong and Berry, 1839. Pp. 384; and Three Plates.

It is not often that we find the title of Practical so applicable to a work as it is on the present occasion. Those physicians in the country who cannot hand over their patients to a professional dentist, as well as the regular practitioners of the dental art, must feel themselves to be under strong obligations to Dr. Harris for the clear and concise views, and numerous practical illustrations, which make up the present treatise.

Omitting a formal anatomical description of the teeth and their appendages, and supports which, it is very properly observed, "could be much better obtained from almost every regular treatise on anatomy," Dr. Harris, after a brief notice of the *history* and *origin of the Dental Art*," proceeds to describe the "*effects of diseased teeth, gums, &c., on the functional operations of other parts of the body.*" In his remarks which follow on "dentition of the deciduous or temporary teeth, irritation, &c., consequent upon it," he takes occasion to point out the *importance of the preservation of these teeth to the health and durability of the permanent ones.* The chapter on the *dentition of the adult teeth, and the proper mode of directing it*, precedes two others on the *irregularities of the teeth and their treatment;* and *peculiarities in their formation and growth.* Under the heads of the Diseases of the Teeth, *caries, odontalgia, necrosis, tartar, or salivary calculus* are described, and the appropriate treatment, local and general, is given. To these, succeed a notice of *diseases of the gums and alveolar processes.* A chapter is given to the subject of *the effects of mercury, tobacco, and snuff upon the teeth, gums, &c.*

The remaining part of the work is devoted to the mode of preparation, and various modes of inserting artificial teeth,—in which we discover the same careful views and cautious directions which were manifested in the first part.

Under the head of *Abuses of the Dental Art*, Doctor Harris says with, we fear, too much truth: "It is a remarkable and humiliating fact, that though dental surgery was never better understood, yet its principles were never more errone-

ously practised and shamefully abused than they are at the present day." After adverting to the "absurdly erroneous opinion, "that mere mechanical skill is all that is necessary in the practice of dental surgery," the author pertinently remarks: "No matter how great may be a man's mechanical ingenuity, he cannot follow out the curative indications of the various diseases to which the teeth are liable, unless he be at the same time acquainted with the anatomy and physiology of the teeth, and of the parts connected with them, as well as with the pathology of their several morbid conditions and the science of disease in general." But theory alone is confessedly insufficient, and "it is therefore only by the union of the general principles of medicine, and mechanical tact, that one can become well skilled in this part of surgery."

The abuses of the art, growing out of the ignorance and empiricism of so called dentists, can only be rectified by its becoming a regular branch of medicine, and by issuing degrees or certificates to those properly prepared to practise it after a regular course of study. Something might be done towards an amelioration of existing abuses if "the practitioners of dentistry would associate as freely and unreservedly with each other as the practitioners of medicine and surgery usually do."

In treating of "*Plugging*," Dr. Harris speaks of the various materials used, and very judiciously concludes the enumeration by an assurance that "gold is the only metal that should be used for plugging, and whenever the cavity in a tooth is well filled with this material, its future preservation may be confidently relied on." He gives a case, illustrative of the wonderful gullibility of the world at large, rich and poor, ignorant and educated, to any and every absurdity, if confidently urged by adroit knavery. It was of a gentleman who was one of the victims of the *Royal Mineral Succedaneum* humbug practised by two itinerant knaves from England a few years ago. Of late some good soul, but one very ignorant of the matter in question, recommends in the *Boston Medical and Surgical Journal*, wood for the purposes of filling up the cavity of a decayed tooth.

In the chapter on extraction of the teeth. Dr. Harris compares the two instruments chiefly used for the purpose, viz. the key and the forceps. Mr. Bell, in 1830, in his admirable work on the Teeth, had said that "the key is the only instrument to be relied on for the removal of teeth that are much decayed, and that those who have heaped the most opprobrium upon it, are glad to have a concealed recourse to its aid." On which Dr. H. thus comments:—

"This may have been true at the time Mr. B. wrote, but it is not now. I have known the forceps often to succeed, after the key had been used by skilful practitioners without effect. I have employed the forceps for more than five years, and I do not hesitate to say, that they will, in most cases, extract any tooth, that can be removed by means of the key, with greater ease to the operator, and less pain to the patient. The key, however, can be used by an experienced hand with rather more facility than the forceps. It is generally supposed that a greater amount of force is necessary to remove a tooth with the forceps, than with the key; but my own experience leads me to believe that it does not require as much."

A practical remark, the application of which is so important to many, is made by Dr. H. under the head of the *Effects of Salivary Calculus*, when he says:

"The teeth and their contiguous parts suffer more from accumulations of tartar, than from almost any other cause. Caries is not much more destructive

to the teeth than large depositions of this substance. They vitiate the secretions of the mouth, render them acrid and unfit to be taken into the stomach, inflame the gum, and cause it to recede from the necks of the teeth, and impart an unhealthy action to the alveolar processes, which, in consequence, become absorbed, until, finally, the teeth are loosened and drop out. In this manner, whole sets of teeth are frequently lost in the course of a few years."

The apprehensions that this operation will remove the enamel are declared to be "entirely groundless."

The chapter on Diseases of the Gums and Alveolar Processes contains much of valuable pathological remark and curative directions, required by the importance of the subject.

We again advert to the concluding chapters on the surgical treatment of the mouth, preparatory to the insertion of artificial teeth, and on the mode of preparing and inserting these latter. The plates inserted at the end of the volume are illustrative of this part of the subject. Extracts would inadequately convey an idea of the mechanical details and manual dexterity demanded in this department of dental surgery; and we shall therefore content ourselves with recommending the entire work of Dr. Harris, as a valuable addition to and completion of the treatise of Hunter, which will appear in our Library of next month.

On the question of the effects of tobacco on the teeth, Dr. Harris says: "From the colouring contained in tobacco, the teeth of persons who chew large quantities of it become, if great care be not taken to keep them clean, in a few years so much stained, that they present a most filthy and disgusting appearance. Moreover their teeth usually suffer a more than ordinary rapid loss of substance, especially when the front ones fall plumb upon each other, from the constant abrasion, to which they are thus necessarily subjected."

Snuff as a dentrifice, is declared by Dr. Harris to render the gums of a scarlet purple, and sometimes of a yellowish appearance, and also soft and spongy, and to cause not unfrequently a loosening of the teeth; and its use in this way is consequently condemned—"Nor are its effects upon the general health less injurious. Persons who use snuff in this manner, are generally observed to have a pale, sallow countenance, especially if their constitutional habit be at all delicate."

Phrenology in the Family; or, the Utility of Phrenology in Early Domestic Education. Dedicated to Mothers. By Joseph A. Warne, A. M. Philadelphia: George W. Donohue, 1839. pp. 292. 18mo.

Occupying, as a physician does, the middle ground, in which with a knowledge of the laws of mere matter is to be combined that of vitalized organic matter, and of the material agencies by and through which mind is manifested, and in its turn impresses them, he cannot remain an indifferent observer to any plan or system, either of classifying the faculties and phenomena of mind, or of training these faculties in a way most conducive to individual and general happiness. With the healthy mind he ought to be conversant, if he would appreciate the diseased mind; and with the means of educating and strengthening the former, if he would learn those for restraining and curing the latter.

The small volume, the title of which is just given, is the production of the Rev. Mr. Warne, a minister of the Baptist Church, a man of fervid piety, great benevolence, and purity of life. Content with announcing it to our readers, and through them to the public at large, we shall merely give, in addition, two short extracts, the one being the conclusion of his Preface, and the other of that of the volume itself.

"The similarity between the views exhibited in the following pages, and certain portions of Mr. Combe's Lectures on Phrenology, where he treats on the same subject, will not fail to strike such readers of this work as may have enjoyed the pleasure of hearing those Lectures. In justice to himself, he may be permitted to say, that this work was prepared, and in the hands of the Pub-

lisher, before the delivery of either course of that gentleman's Lectures:—the similarity,—yea, even the *identity* of views expressed by him and by the author, without concert, or knowledge on the part of either that such were the opinions of the other, goes far, however, to prove that both, in embracing Phrenology as the basis of Education, have adopted the true philosophy of human nature."

The importance of the subject, and the duty of mothers in reference to it and to their children, are set forth in the second extract, which runs thus:

"Now it is in childhood, *early* childhood, and even *infancy*, that we can operate *most* advantageously: the material is then most plastic, and most readily takes impressions, and most tenaciously retains them. Of course, then, it is important to those who are destined to give these impressions, and are most interested in giving, and most concerned to give, *right* impressions, (i. e. to mothers,) to understand, *from the first*, in what relative proportions the elementary principles of human nature are combined in their own children; that they may not err in their treatment of them. This information Phrenology will impart to them: and, on this account it is, we had almost said, *imperative* on them to study it. It was not always thus imperative: Phrenology was, at first, little more than a hypothesis; but by degrees it advanced to a theory; and ultimately became a system, and a science. Its importance, in the department of education, can scarcely be overrated;—it is just beginning to be appreciated; and the sooner it is appreciated in the nursery, the better; because the more efficiently will it be applied in the subsequent parts of education, in proportion as the subjects of education have been, in early childhood, treated according to its principles. Let parents, then, be admonished, that in the present state of knowledge upon this subject, they will not be found to have performed their duty, in the education of their children, either as regards their animal, their intellectual, or their moral nature, unless they make that nature the object of their own study; and this, by means of the lights of Phrenology."

The Art of Prolonging Life briefly considered. A Lecture delivered before the Athenian Institute, January, 1838. By J. PANCOAST, M.D.

THOUGH he has not revealed to us the art itself, Dr. Pancoast in his lecture describes the conditions for vitality, and the means by which it may be protected against the various agencies which tend to its destruction, even when ministering to its support. His basis is too wide, we will not say in reference to the superstructure to be erected, but for the completion of that which he has raised on this occasion. It may be represented as a truncated pyramid, very good as far as it goes, but still incomplete.

After reference to the gradations of animated nature, and a notice of the two great divisions of the animal kingdom—the cold and the warm blooded—Dr. Pancoast proceeds to specify the influence of the different stimulants by which life is maintained, viz. light, heat, atmospheric air, and water;—food might have been added,—and he afterwards gives a sketch of the organs acted on by these agents. Some useful hints are given as to the amount of exercise or stimulation of the organs relative to age and other circumstances; and particularly of the brain in the labours of intellect, and the indulgence in the emotions and passions, with a contrast between temperance and excesses, in the lives of Tiberius Cæsar and Lewis Cornaro.

This lecture will furnish many useful hints, and some pleasant facts, to the general reader, and thus far answers the purpose to be obtained by lecturing in general; the benefits from which are more in what is suggested than in a finished system and connected proofs.

Valedictory Address to the Students in Medicine of the College of Physicians and Surgeons of the University of the State of New York. Delivered, February 28, 1839. By JOHN B. BECK, M.D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of the University of N. Y. Pp. 24.

DOCTOR BECK, in his valedictory address, urges succinctly and earnestly on his auditors the importance of a well disciplined mind, including of course a well

grounded elementary education, the ambition also of being learned and industrious, and intent on giving their labours a proper direction by ever having truth for their object. An avoidance of connecting one'self with some popular sect or party, and an enthusiastic love of the profession, and respect for one's professional brethren, are the concluding topics of this interesting discourse.

An Address, delivered to the Students of the Louisville Medical Institute, in presence of the Citizens of that Place, at the Commencement of the Second Session of the Institute, November 13, 1838. By Joshua B. Flint, M.D., Professor of Surgery. Pp. 31.

In the large and closely printed pages of this address of Doctor Flint, the reader will find a comprehensive view of the requisites for medical distinction and usefulness, of the amelioration required in medical education, and of the advantages presented to the American student in transatlantic institutions. Spirited as are the sketches of these latter, they are inaccurate, and border, especially in the case of those of France, on caricature. Like, however, all good caricatures, there is a resemblance preserved of the original. In the favourable opinions expressed of Italian medicine and hospital clinic, particularly that of Florence, we feel disposed from personal experience to coincide. Our daily visits to the wards of the hospital of *Santa Maria Nuova* are the sources of some of our most pleasant reminiscences of foreign travel in quest of medical instruction.

Various salutary criticisms and suggestions are given in this address, a perusal of which will leave on the mind of the reader favourable impressions of the sincerity and industry of Dr. Flint.

A Memoir on the Life and Character of Philip Syng Physick, M.D. By J. Randolph, M.D., Lecturer on Surgery, Member of the American Philosophical Society, one of the Surgeons to the Pennsylvania Hospital, Member of the Philadelphia College of Physicians, &c. &c.

Doctor Randolph has availed of the long and confidential intercourse both professional and social, which he held with Doctor Physick, to present, first to the Medical Society, before which it was read, and subsequently, by request of this Society, to the general public, a Memoir most happily commemorative of the life of the great surgeon, and, to a certain extent, illustrative also of that of the man. It is accompanied by a lithographic engraving, by Newsom, from a painting by Inman, wich conveys a more accurate representation of the countenance and expression of Dr. Physick, than any thing of the kind which we have seen.

We do not attempt to give even an outline of this Memoir, nor to make extracts from it, purposing, at a convenient season, to introduce it into our Library.

CORRECTION.

In our April Number, we had occasion to transfer some tables and estimates to our pages, from the annual returns of the deaths in New York and Philadelphia. Comparisons, saith the sage Dogberry, are 'odorous;' and one or two which we made between the New York returns and those of our own city, seem not to have furnished an exception to this apothegm. But a more serious and well founded cause of complaint, preferred by a friend in a note addressed to us on the subject, was our remark that there was a want of specification of the proportion of the deaths of the two races, black and white, in Philadelphia. More care would have led us to note, that although in the table of the number of deaths for each month, which we inserted, and which we derived from a general statement of the Board of Health, as well as in that of the diseases from which the deaths occurred, there was no such specification, yet that in another table this was regularly presented for every week in the year.

A new periodical is announced for publication in July, under the title of the New York Quarterly Journal of Medicine and Surgery. The publisher is George Adlard, 168 Broadway. We see that there is a goodly list of able collaborators to this work, the terms of which are five dollars a year, payable in advance. Each number will contain two hundred and forty pages.

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UNIVERSITY COLLEGE HOSPITAL.

ON THE ENDERMIC METHOD OF APPLYING THE SALTS OF MORPHIA; WITH CASES AND REMARKS,

BY DR. A. T. THOMSON.

Cases in which the salts of morphia were used endermically.—Local and general effects of the treatment.—The mode in which the remedies acted.—Best plan of denuding the surface.—Advantages attending the introduction of medicines by the skin.

Mary Ann Marshall, aged 19 years, was admitted on the 25th of November, 1837. She had been in the hospital seven months before this time, but had enjoyed good health in the interval. She was attacked with aching and throbbing pain of the fingers of the right hand, extending up the arm, and soon lost all power of volition over the extremity, which now swelled, whilst the pain continued to increase steadily in severity until her admission into the hospital. The tenderness of the arm was so great that she was unable to bear the slightest touch. The tongue was clean, the pulse natural, the bowels were open, and the catamenia regular. For some days various means of relief were attempted under the idea that the disease was hysteria, but without any advantage being derived. On the 1st of December a moderate-sized blister was applied upon the inside of the wrist, and one grain of *hydrochlorate of morphia*, combined with six grains of *refined sugar*, in fine powder, was ordered to be sprinkled, night and morning, upon the blistered surface.

Dec. 3. The pain was much abated; and the susceptibility of the skin of the arm lessened.

8. The pain was completely gone, but the face and the upper part of the neck, and the shoulders, were covered with a small pustular eruption. The inflammation of the face was considerable, and the eyelids œdematous, obstructing the sight. The tongue was furred; the pulse hard, and 120; the skin hot, and the thirst great. The use of the salt of morphia was discontinued; and a mixture, consisting of 12 grains of *disulphate of quina*, half an ounce of *sulphate of magnesia*, one drachm of *diluted sulphuric acid*, and eight ounces of *infusion of cinchona*, ordered to be taken, in doses of two tablespoonsful, every third hour.

10. The swelling of the face was reduced, and the crusts of many of the pustules were falling off; but the eruption was extending down the back.

15. The eruption had extended to the thighs, but it was now evidently on the decline: there was no return of the affection of the hand and the arm.

31. She had remained perfectly free from pain since the 8th; the eruption had wholly disappeared. She was discharged cured.

Case 2.—Jane Lawrence, aged 26, a cook, a single woman, was admitted into the hospital on the 30th of December, 1838. She had been in the hospital three years ago, with acute rheumatism, but since that time she had remained in tolerable health, until three weeks since, when she found that on pressing the cicatrix of a wound, on the fore part of the left hand, which had been inflicted by the breaking of an earthen vessel, a peculiar suffocating sensation was experienced in the gullet, and a crowing sound elicited. These symptoms were augmented by taking food, and on the least exertion. Her appetite was nearly gone: the

tongue was thickly furred; the pulse full, strong, hard, and 108; the skin hot and dry, but the bowels were open. She was ordered to be cupped between the scapulæ; to take immediately afterwards a pill containing six grains of *calomel*, and to follow it up with a brisk *black dose*. After the bowels were freely opened, she was directed to take a pill containing half a grain of *nitrate of silver*, and two grains of *extract of conium*, every sixth hour; with one drachm of *valerian* in powder.

Jan. 6. No improvement of the symptoms was obtained, although the nitrate of silver had been increased to two grains; but the tongue was cleaner. The pressure on the finger excited much pain, and the spasmodic affection of the gullet and the glottis was increased. A blister was ordered to be applied on the wrist, and a grain and a half of *hydrochlorate of morphia*, with six grains of *refined sugar*, to be sprinkled on the denuded surface, night and morning, daily. The internal medicines were ordered to be continued.

13. Squeezing the finger no longer caused the spasmodic action; the tongue was clean, the pulse reduced to 84, and the temperature of the skin was natural.

22. There had been no return of the spasmodic action, except for two days after lifting a heavy weight, when it was found that the pain and spasm were induced by pressure on the upper part of the spine, as well as on the finger. The blister on the wrist was directed to be healed, and another opened over that part of the spine where pressure induced the spasm. The blistered surface was ordered to be sprinkled, night and morning, with a grain and a half of *acetate of morphia*, and seven grains of *sugar*. She complained of great weakness, for the relief of which she took a moderate dose of sulphate of iron, in combination with extract of gentian.

30. The spasmodic affection was gone; but pressure on the dorsal spine, and strong pressure in the course of the median nerve caused a peculiar expression of anxiety on the countenance, although neither the sensation of suffocation nor the crowing noise were produced. The pustular eruption had appeared on the back and shoulders. The use of the acetate of morphia was ordered to be discontinued.

Feb. 2. She was discharged cured.

Case 3.—Mary Thomas, aged 17, was admitted July 25, 1838. She complained of pain in the ankle, accompanied with a sensation of heat and soreness, resembling, to use her own language, the action of a blister. It was increased on standing; and the foot was turned inwards, owing to the pain. The general health was apparently good. She was ordered to apply a blister on the pained part; and to sprinkle the denuded surface with two grains of *hydrochlorate of morphia*, mixed with six grains of *refined sugar*, night and morning.

July 24. The pain was much relieved, but not gone.

August 5. The pain was considerably relieved.

7. The pain was gone, and the foot returned to its natural position; an eruption appeared this morning, and extended over the face, shoulders, and chest.

13. The eruption has disappeared, and the pain has not returned.

17. She was discharged cured.

These three cases (said Dr. Thomson, in his lecture) showed the effects of the endermic employment of the salts of morphia in local painful disease. The next two cases would illustrate their general influence.

Case 4.—Hannah Barber, aged 40, was transmitted from Mr. Liston's care to that of Dr. Thomson. She had been under the management of Mr. Liston for ulceration of the larynx, and had been treated with the local application of the nitrate of silver and blisters. She complained of cough, which caused muco-purulent expectoration, and likewise of night sweats. The pulse was small and quick; the tongue moist and clean; the bowels open; and the catamenia, until the last period, when she passed over a fortnight, were regular. On examining the chest percussion was extensively dull on the left side; the respiration was sonorous, with mucous and sub-mucous râles, and bronchophony. The impulse of the heart was sensible over a great extent of the chest. She was bled to twelve ounces, purged, and a mixture, with the compound powder of ipecacuanha, ordered to be taken once in four hours. A blister was applied between the sca-

pulæ, and sprinkled with a grain and a half of *acetate of morphia*, night and morning, daily.

Dec. 22. She was much relieved, until last night, when, the blister having dried up, the dyspnœa returned, and the night sweat was very copious. The blister was again opened, and the salt of morphia used as before. The internal medicine was discontinued. The improvement was progressive until the 9th of February, when she caught cold, and the cough returned. It was discovered that she had discontinued the use of the salt of morphia since the 8th instant, as she complained that it caused headache and vertigo. Its employment was resumed, and she was ordered to take an emetic once a week.

23. She had been better in every respect, but she complained of sore throat and pain in the act of deglutition. The right tonsil was enlarged and slightly inflamed; the cough had also returned. The emetics were ordered to be discontinued, and the use of the morphia to be resumed. The improvement soon again became obvious.

Jan. 14. The cough and dyspnœa were completely gone; she had no night sweats. The pustular eruption had appeared on the trunk of the body generally, and was rapidly extending upwards and downwards.

16. Feels better than she has felt for years.

20. She was discharged cured.

CASE 5.—Charlotte Lott, aged 36, was admitted June 26, 1838, a single woman, a servant. About nine weeks ago she was seized with a violent pain of the right side, which felt, also, very tender on pressure,—symptoms which she ascribed to cold. She was bled twice, and blistered, by the medical attendant of the family, but without any decided benefit. A fortnight afterwards, a cough supervened, which greatly augmented the pain in the side; it has gradually become worse; it now recurs in frequent and violent paroxysms, attended with severe dyspnœa on lying on either side. She has tenderness on the right side of the chest, with dulness on percussion. The expectoration is muco-purulent, and the night sweats are copious; the pulse is small, and compressible; the bowels are regular, and the appetite is good. The catamenia have ceased since the commencement of the attack.

27. A blister was applied on the pained side, and the denuded surface sprinkled with a grain and a half of *hydrochlorate of morphia*, and six grains of *refined sugar*, night and morning.

July 4. The sputa were diminished in quantity, and the cough was much less.

13. The cough and perspiration were much abated, the sputa less purulent.

27. Still improving. Let her take an emetic once a week.

Aug. 7. The cough is not worse, but it is still severe. Another blister was applied to the side, and the same quantity of hydrochlorate of morphia used.

10. She was greatly better in every respect. She was not well. She was discharged, at her own request, as she wished to try the effect of country air.

In lecturing on these cases, Dr. Thomson said that the pupils had had many opportunities of observing the plan which he had pursued in these cases,—and which he had also extensively employed in private practice. He was anxious to offer a few remarks upon the subject, and to explain the manner in which he conceived narcotics operated, when they were thus administered. If we reflect (said he) how long a period has elapsed since medicinal agents had been applied to, or rubbed upon, the entire skin, and how much benefit had been derived from counter-irritants, it was remarkable that no advantage had been taken of the skin, as an inlet to medicinal substances capable of acting generally upon the system, until the year 1823. MM. Lembert and Lessieur, at that time, suggested what was termed the *endermic method*. They had some followers among continental practitioners, but few in this country had ventured to administer medicines in this way; and it was not too broad an assertion to affirm that it had been most unjustifiably neglected. Since he, Dr. T., had had the honour of being one of the physicians of the University College Hospital, he had lost no opportunity of essaying the value of the endermic method, and he had seen such advantages derived from it, that he was most anxious to recommend it to the members of the profession, as well as to the pupils of the hospital.

He was fully aware that, in clinical instruction, hypotheses should be avoided; but, at the same time, the explanation of the manner in which remedial agents influenced the habit, if founded upon correct physiological principles, could not fail to be acceptable. His theory of the *modus operandi* of narcotics, when applied to the skin, previously deprived of its epidermis, was based upon that foundation; he did not claim for it more than its legitimate value. But, before explaining his opinions, he would mention a few circumstances relative to the best method of denuding the surface, and preparing the skin to aid the influence of the narcotics which might be applied to it.

The most common method of raising the cuticle was the application of a blister; and since the introduction of the acetum cantharidis, we possessed a very rapid and efficient means of blistering. This might be also rapidly effected by means of a compound of four parts of lard rubbed up with six of *strong* liquid ammonia. The best mode of removing the cuticle was to apply over the blister an emollient poultice; the whole of the raised cuticle was, by this means, taken off, without that suffering, to nervous and irritable patients, which the ordinary method induced. The salts of morphia, when these were the narcotics employed, tended, in some degree, to promote the suppurative process on the denuded surface, and, consequently, to prevent it from cicatrizing. Opium, henbane, and belladonna, operated in the same manner; but he had found that the influence of all of them, in that respect, was greatly augmented by the addition of a small quantity of refined sugar. It was not necessary to apply a large blister; on the contrary, as the quantity of a narcotic to be applied was small, the denuded surface needed not to be greater than it could cover.

The full dose of the narcotic should not be applied at first, the irritant influence of some narcotics being so great as to cause inflammation in the part, and thence to check absorption. It should be gradually augmented as the habit got accustomed to it; and when the desired effect had been produced, the dose should be as gradually diminished. With respect to the part of the skin to which the narcotic was to be applied: when the local influence only was required, the blistered surface should be that directly over the seat of the pain; when the general effect was to be produced, it should be as near to the head as possible. One advantage of the endermic method over the internal administration of powerful narcotics was, that of obtaining the full influence of the narcotic without any chemical change being produced upon it, such as must necessarily often occur when it was taken into the stomach: another was, that the digestive function was left undisturbed: and a third was, the power which we possessed of restraining the too great activity of the narcotic by the application of an exhausted cupping-glass over the part to which it had been applied. For, although this would produce no advantage if the whole of the narcotic was already taken into the system, yet, if the hurtful influence of it was displayed when it had been only partially absorbed, the cupping-glass effectually checked its farther absorption.

Besides narcotics, he had advantageously administered other remedies by the endermic method; namely, strychnia, extract of colchicum, and iodide of iron; but he should confine his present remarks to the salts of morphia. In the greatest number of cases the hydrochlorate was employed; but, when an anodyne influence was especially desired, the acetate operated better, more efficiently in allaying pain, and in a shorter period of time than the hydrochlorate, probably owing to its deliquescent property. When the salts of morphia are applied to a denuded surface, they excite a burning heat in the part, a fact which might, *à priori*, be expected, as all stimuli cause sensation in nerves, whether entire or mutilated, so long as the irritated portions maintain their connection with the brain or the spinal cord. In this case, the chemical irritant property of the salt acts on the excitability of the nerves, and causes pain; but, after a short time, the effect thus produced ceases, and the sensibility of the nerves is deadened. Some change, although not an obvious one, is produced in the material composition of the nerves; a loss of susceptibility of impression is the consequence, and neuralgic pains are thus lessened, or they wholly disappear. Now, were narcotics administered internally in doses sufficient to produce such effects, they would give

rise to the same injurious consequences as result from morbid or excessive stimuli, and they would tend to annihilate the vital force; whereas, when endermically used, much of their influence is exhausted in their local action on the affected nerves. That such a local action exists there could be no doubt; for, independent of the experiments of Humboldt, Müller, Wilson Phillip, Brodie, and others, which had demonstrated the local influence of narcotics on the nerves, we cannot ascribe to any general action, nor to absorption, either the influence of belladonna upon the iris, when it is applied to the eyelids, or that of carbonate of lead upon the wrists of those who work in lead. In these cases, although the narcotic reaches the nerves of the iris and those of the wrists by imbibition, yet it is evidently a local influence which is exerted, for the pupil of the other eye remains unaffected, and although the wrists are paralysed, the power of volition over the nerves continues. Were any other proof requisite, he had only to mention the experiment of Müller. He dissected out the ischiatic nerve in toads, and left the leg connected to the body only by that nerve. He next immersed the leg and nerve in a strong watery solution of opium; both were paralysed; no contractions of the muscles could be excited by the galvanic, nor by any chemical stimulus. In another experiment, he immersed the bared nerve only in the solution of opium, after which the galvanic or a mechanical stimulus excited no contractions in the muscles, when applied to the upper part of the nerve, but convulsions were produced when the nerves were excited from below,—a fact clearly demonstrative of the local influence of the narcotic. It is still further probable that in every instance where there is a general action of the narcotic, this is dependant upon its absorption; or, in other words, that it operates through the medium of the blood, whether the narcotic be taken into the stomach, or applied to a denuded surface. It might be supposed, however, that, in that case the influence of the narcotic in the part was propagated through the nerves; but the experiments of Fontana and Wernschedt were sufficient to prove the incorrectness of that opinion. In the experiments of the latter, when the nervus vagus was divided on both sides, opium, introduced into the stomach, produced its influence upon the habit as readily as when these nerves were entire; and this result was confirmed by the experiments of Brodie, Emmert, Delille, Wedemeyer, and Viridet.

These facts were sufficient to demonstrate that narcotics endermically administered acted both locally and generally; and from experiments which he, Dr. T., had made, he had no hesitation in affirming, that when salts of morphia were applied to a blistered, or otherwise denuded surface, the narcotic might either exhaust itself locally, or it might be taken into the circulation, and operate upon the cerebro-spinal centres as rapidly as when it was introduced into the stomach. The time required for the imbibition of a narcotic thus applied, in order to reach the capillaries, and to enter the circulation, was stated by Müller, in his "Elements of Physiology," to be less than a second; and as the blood circulated through the whole body in half a minute, if Herring's calculation was correct; or from one to two minutes, according to others, it was not assuming too much to suppose that a narcotic placed in contact with a part freed from epidermis, might be distributed through the circulating system in a space of time between half a minute and two minutes. In some of the instances in which finely-powdered hydrochlorate of morphia was sprinkled over a blistered surface, the influence of the narcotic was felt in the head in less than a minute. He might here enumerate the symptoms which indicated the general influence of the narcotic, thus applied, upon the cerebro-spinal centres; but he preferred leaving these to the details of the cases, illustrative of the practice, which he had selected to lay before the students. He might, however, mention, that when the nerves were topically affected, as in neuralgia, the general symptoms scarcely ever displayed themselves.

Such was the physiological action of narcotics applied to the denuded surface of the body, which had hitherto been recorded; but there was another action produced by at least one of these, namely, hydrochlorate of morphia, which had not, to his knowledge, been previously observed, and to which much of the advantages derived from its application, in a therapeutical point of view, was to be attributed. He referred to the production of a papular eruption, terminating

in pustules, which spread from the immediate vicinity of the part in which the hydrochlorate was applied, all over the body; and it was more or less attended with œdema. In some instances the swelling, when the blistered surface was in the vicinity of the head, had been so considerable as to close the eyes, in a manner similar to that which occurs in erysipelas of the head. It had also been attended with some degree of fever; and in a few instances delirium had displayed itself when the eruption had reached its acme. It seemed to operate as a most powerful and efficient counter-irritant, without, apparently, interfering with the narcotic influence of the hydrochlorate. The eruption was a pustular one, and he had observed that the relief was most obvious as soon as the pustules were fairly formed; indeed, so striking had been the beneficial influence of this eruption, that he was inclined to accord with the remark of Dr. Jenner, that "every pimple with a vesiculated head had an errand to perform for the benefit of the constitution."

He had selected the preceding cases from a great number. The first three were intended to illustrate the local influence of the endermic application of the salts of morphia; the other two, their general influence. His object in bringing forward these cases was, to direct attention to the endermic practice which promised many advantages; and which only required to be investigated to gain the support of British practitioners.—*Lancet.*

CLINICAL OBSERVATIONS DELIVERED AT ST. GEORGE'S HOSPITAL.

BY SIR B. C. BRODIE.

On Disease of the Vertebræ.

There is a joint between every two vertebral bodies, with the intervention only of a piece of cartilage between them. If, in a case of diseased vertebræ, you dissect the parts in the early stage of the complaint, you will sometimes find the bones more vascular than natural. After this a cheesy deposit takes place, and the vascularity of the part diminishes. At other times you will find that the vertebræ are abnormally light, soft, and spongy in texture, admitting of being easily cut through with a knife; and, again, in other cases, you may find them unusually hard and heavy in texture, as bones frequently are in chronic inflammation, before ulceration sets in. Diseases of the vertebræ sometimes commence in the intervertebral substance. In the healthy state there is, in the centre of the cartilage, an elastic, soft, gelatinous substance. This sometimes becomes brown and brittle, and seems divided into fragmentary lamellæ, and loses its connecting adhesions above and below. In this manner caries will sometimes commence in several parts of the vertebral column at once. In other cases the ulceration begins at the anterior or lateral surfaces of the vertebræ, but most frequently its first effects are seen at that part where the vertebral bodies are connected to the cartilage above and below. When ulceration once commences, it spreads very rapidly, and may continue for some time before suppuration comes on. This may occur when, as yet, there is but little destruction of the bones from ulceration, or the contrary; or the vascularity of the bones may diminish and they may die, but not exfoliate to any great extent. Ulceration may go on in the bodies of the vertebræ, as in other joints, for a long time without suppuration coming on; but, sooner or later, abscesses will form on the surface of the carious bone.

Sometimes suppuration begins with but little destruction of the vertebral bodies, and but a very small quantity of pus may be secreted. Sometimes, also, suppuration will not commence until ulceration has proceeded to a very great length. When the bodies of the vertebræ die they exfoliate as in scrofulous cases, their vascularity becoming diminished, and the sequestrum is thrown off, but not to any very great extent. The vertebræ are sometimes extensively implicated, and many surfaces of bone are affected, whilst, in other cases, the reverse of this obtains. When an abscess forms, it points sooner or later to the surface, according to its situation. Sometimes, however, it makes its way inwards into the cavity of the theca vertebralis. I remember one case in which

the cervical vertebræ were affected, and the whole cavity of the theca was filled with pus.

Caries sometimes occurs in the joints, between the articulating processes, and this is more frequently to be met with than is generally supposed. This most frequently occurs in the cervical vertebræ, and the destruction of parts is, in these cases, greater than where the disease is confined originally to the bodies of the vertebræ.

Where caries affects the bodies of the vertebræ, you do not notice, at first, any alteration in the figure of the spine; and this alteration, when it occurs, is marked by an angular curve, greater or lesser, according to the situation of the original disease. In the lumbar vertebræ, the disease may go on for a long time before any alteration is observed in the shape of the spinal column, because their spinous processes are short and stand directly out. The same may also be said of the cervical vertebræ. But, in the dorsal vertebræ, the bodies of the bones are small, compared to those of the loins; their spinous processes are long and point downwards.

Angular curvature, then, only occurs in the advanced stages of carious disease of the vertebræ. Sometimes it shows itself suddenly, in the course of a month perhaps, in cases where matter forms suddenly, and as suddenly discharges itself. Angular curvature differs in different cases; sometimes there is a double angle, one below the other. If the curvature be slight there is but little alteration of position in the internal viscera; if the curvature be great, the course of the aorta is altered, and I have dissected cases after death in which the aorta made two or three turns. Sometimes, in these cases, the sternum and ribs project more than is natural, the heart appears displaced, and the lungs seem compressed and diminished in size.

I shall now give you a general account of this disease of the vertebræ as it is developed in its symptoms. The pain is sometimes very obscure and trifling in the early stage, and it may gradually increase to very great severity, or it may remain very trifling in degree throughout the entire case; or it may, on the contrary, be very severe from the first day to the last. I have known cases in which the curvature has been very great and the patient has suffered no pain whatever; whilst I have known others in which the curvature was much less, and the slightest motion gave the patient intense pain, and pressure caused very great agony. Here, then, are two extreme cases; but between these there are many degrees of variation and change. In scrofulous caries of the spinal bones there is, generally, but little pain suffered, whilst in simple inflammation, followed by ulceration, the pain is generally very severe. This disease of the vertebræ begins sometimes very insidiously, and can be traced to no original source or cause. It will sometimes follow an attack of fever, and caries, with all its symptoms, becomes soon set up. There are other diseases of bones which frequently show themselves after an attack of fever. Sometimes this occurs in persons of truly scrofulous habit; sometimes in those who possess the healthiest constitutions. Pain comes on first, and suppuration and abscess soon follows. In some cases, however, a long time elapses before any change in the shape of the spinal column occurs, or abscess presents itself. I know of a case in which abscess only showed itself ten years after the irruption of the original disease: and I know of another in which the disease had existed twenty-one years before any abscess presented. An abscess, therefore, may be pent up for a very long time. It is very strange, however, that it may exist for this length of time without the constitution suffering from its irritation.

Well, then, either sooner or later, the abscess bursts. When this occurs in young persons they may recover, the cavity may become filled up, and anchylosis may take place between the vertebræ. Generally, however, the reverse of this presents itself, and the patient dies. Hectic fever shows itself; the lungs become affected, and the patient dies from some internal disease supervening upon the fever. The children of the upper classes of life may, and do sometimes recover from the disease.

Disease of the bones of the spine may irritate the spinal cord, or the cauda equina, and cause irritation of the parts below, which they supply with nervous

influence. These symptoms differ, of course, according to what part of the bone the caries is situated in.

If the caries be situated in the upper cervical vertebræ, there is pain in the back of the neck when no motion takes place, and stiffness; and such a case may be simply mistaken for one of stiff neck. There is pain extending up to the head, and this may last for a long time before angular curvature shows itself, because the spinous processes of the cervical vertebræ are very short. The symptoms which then ensue are numbness and paralysis, with loss of the use of the arms, pains in the shoulders and arms, which may be severe or not. This is followed by paralysis extending from muscle to muscle. If the disease goes on, these symptoms extend to the lower limbs, and they become paralysed, and the patient cannot move at all. The abdomen becomes affected, the bowels become torpid, and no purgatives will act upon them unless they be combined with ammonia. Some time will frequently elapse before abscess forms in the neck, which generally occurs at its inferior and lateral part. You should be careful in detecting this disease in its early stage, and you may know it by the accompanying pain and stiffness. If you put your hand on the patient's head and press it down firmly, it will cause very great pain, which simply stiff neck will not do.

When caries occurs in the dorsal vertebræ, there may be pain or not at the actual seat of the disease, or the pain may be in the loins, or referred, in the first instance, only to the hip, which might lead an inexperienced practitioner to imagine the disease was situated there. As the disease goes on, then, in the dorsal vertebræ the pain extends; the chest and abdomen, the bowels become torpid, and there is a frequent sense of constriction across the epigastric region, with tightness of the chest and dyspnœa. The lower limbs become paralysed, and the patient trips in walking. The muscles are affected by spasmodic twitchings and convulsive movements. The bladder becomes paralysed, and the urine is with difficulty voided, whilst the spine becomes distorted, more evidently so in the neck than elsewhere, from the spinous processes of the cervical vertebræ pointing downwards. As the disease progresses the angular curvature increases; an abscess forms at the anterior and lateral surface of the spinal column, which is bound down by a thick capsule of lymph, preventing it frequently from coming forward in the spot in which it forms, and frequently causing it to descend along the line of the psoas muscle, and present in the groin.

If caries occur in the lumbar vertebræ the abscess may be felt in the belly, in front of the kidneys, where it may lodge for a long time, and thence descend along the psoas muscle into the groin, pass thence through the sacro-sciatic notch, following the course of the sciatic nerve, and coming out at the back of the thigh; or it may burst at the back of the abdomen; or I have known cases in which it has come forward in the chest. The pain in the loins may be at one side only, or it may extend across to both, and it may be slight or severe in suffering, according to the condition of the bone, whether it be hard or soft from scrofulous disease or chronic ulceration. In some cases the pain is severely aggravated by the slightest motion of the lower limbs, and this may continue for three or four years. I knew one in which this state of disease continued for ten years. After this abscess appears, sometimes there is paralysis of the parts below; sometimes not; and sometimes there is angular curvature, and sometimes not. In these cases the abscess will present itself at the anterior superior spinous process of the ilium; and sometimes by the side of the sacro-lumbalis muscle, or it may burst into the rectum or the scrotum, or it may present at one place and shift thence to another. When it presents itself in the groin it is small, but very soon increases in size. An abscess may be present but cause no constitutional disturbance; or there may be frequent rigors, night sweats, and hectic fever. Within the spinal canal of the lumbar vertebra there is no spinal marrow, but only the cauda equina, each with its separate neurilema. The bodies of the lumbar vertebræ are larger, and it therefore takes a longer time for an abscess to eat its way out by ulceration. It is, therefore, a longer period before paralysis occurs, and a greater degree of ulceration is required to produce angular

curvature; and when this does occur, the projection outwards is not so well marked, from the spinous processes being shorter.

You may safely diagnosticate between this affection of the lumbar vertebræ, and others in which the bones and muscles of the loins are affected. Common lumbago comes on suddenly with pain and incapability of motion, which, after a time, go off. Inflammation of the lower part of the spinal cord and the cauda equina produce pain with effusion of lymph around the spinal marrow; the sudden and violent pain in the loins resembles lumbago somewhat; but you may distinguish it by the pain not being increased on motion, and if you cup and bleed, and give mercury, the pain and paralysis subsides. Pain from affection of the kidneys generally occurs in one loin only, with consequent irritation of the bladder, with albumen and pus in the urine, which latter symptoms will sometimes render the diagnosis difficult. I knew of a case of albuminous urine, occurring in a case of diseased spine, mistaken for disease of the kidney; but whether disease of the spine will extend to the kidney, my experience does not enable me to determine.—*Ib.*

ON IDIOPATHIC IRRITABLE BLADDER;

The Substance of a Clinical Lecture,

BY F. HALE THOMSON, ESQ.,

Assistant Surgeon to the Westminster Hospital.

(Delivered on Wednesday, March 20, 1839.)

MR. THOMSON delivered this day, the first of a series of clinical lectures. As an exordium he made several observations on the importance of clinical instruction and note-taking. General lectures on the different branches of the healing art afforded but an outline; but demonstrations of actual disease filled up the details of the picture, and gave the student a practical acquaintance with diseases. Note-taking, he said, was of more importance than was generally imagined; it not only contributed to make the knowledge of the student more precise and circumstantial (and no knowledge was useful which was not exact), but furthermore, it tended to form in the mind habits of accurate thinking, which were not only useful in the acquisition of science, but also in the ordinary business of life. The subject chosen by Mr. Thomson for his first lecture was, "idiopathic irritable bladder," a malady, unfortunately, not of uncommon occurrence. The bladder, he said, was an organ possessing very extensive sympathy with the states and conditions of the other viscera. An irritable state of the brain affected, speedily, the functions of the bladder; and even certain mental affections, as was evident in the case of fear or anxiety, where not only an increased secretion from the kidney occurred, but the bladder, though not distended, became impatient of its contents. But injuries, and maladies affecting the head, were not the only causes which disturbed the functions of this important organ. Mr. Thomson had known instances in which compound dislocation of the ankle had produced irritable bladder.

It was obvious that the functions of the bladder must be unfavourably influenced by the presence of organic disease, in its own texture, or in contiguous and continuous structures; for example, by enlargement of the prostate gland; by disorganized kidney; by the accretion of calculi; by tumour, inflammation, or ulceration of adjacent organs. The diagnosis of these structural diseases was not involved in any great difficulty; the most obscure, perhaps, was Bright's disease of the kidney; and this could be satisfactorily ascertained by the use of a few simple reagents: for example, merely elevating the temperature of the urine of a patient affected with this malady to 150° Fahr. would coagulate the albumen, which is characteristic of it, and make evident numerous particles of *cruorin* diffused through the serum.

The disease, however, to which Mr. Thomson wished particularly to draw the attention of the students was simply a functional derangement of the organ,

in which there existed no alteration of structure either in itself, or in any other of the pelvic or urinary apparatuses. This disease had been well illustrated in the case of Robert Stodart, a man about forty years old, and who had been seen by all the gentlemen present. This patient was by trade a tailor, but had been at sea for several years. When admitted into the hospital, on the 12th Feb., 1839, he was exceedingly emaciated; he had incontinence of urine, attended with great pain on voiding it, and for some time afterwards. He had been suffering more or less from this inconvenience for the last two years; but for nine months previous to his admission he had been totally unable to retain his water either night or day. He acknowledged to having led a very debauched and irregular course of life, and to having freely indulged in inebriety. Until within the last two years, however, his health was not apparently much impaired. Two years ago he was, according to his own statement, suddenly seized with rigors and pain in the back; he applied to a neighbouring dispensary; he was bled from the arm and cupped on the loins, and in a few weeks he convalesced. At this period he observed, for the first time, that his urine passed in a forked stream. About July or August last, he found that his urine flowed in unusually small quantities, and that micturition was attended with considerable pain. These symptoms gradually increased in intensity, till he was reduced to the most distressing state from the constant involuntary dribbling of the contents of the bladder. He had had two or three severe attacks of gonorrhœa, and had for some time found the sitting posture uneasy to him. On the day after his admission (13th Feb. ult.), Mr. Thomson prescribed for him the late Mr. Lynn's favourite aperient draught, viz., half an ounce of castor-oil, mixed with the same quantity of tincture of senna. A silver catheter was introduced into the bladder, but not without some obstruction at the prostatic part of the urethra. A lare quantity of dark-brown, and highly ammoniacal urine, was drawn off, and a considerable quantity of mucus followed. Upon testing the urine, it was found to be alkaline; the bladder was injected with warm water, and the following medicine exhibited:—

Phosphoric acid, ℥ij.;

Decoction of pareira brava, f℥viij. An ounce twice a day. Lynn's draught every morning, and ten grains of Dover's powder every evening. He was placed on a fish diet.

Feb. 15. He had passed a good night, had perspired profusely, and had felt no pain since the bladder was injected with warm water. The urine had passed three times in a natural manner.

16. The bowels being confined he was purged with chloride of mercury and extract of colocynth and a senna draught.

17. The man was much improved. The urine drawn off exhibited no alkaline properties.

18. The bowels became constipated again, and a good deal of irritative fever was excited, in consequence of which the catheter was not introduced this day. He was purged with jalap and senna, and a febrifuge mixture was resorted to, consisting of acetate of ammonia, antimonial wine, and camphor julep.

19. Having much pain in the loins, he was ordered a strengthening plaster.

20. The medicine had induced nausea and vomiting, but the irritation of the bladder was diminished. An effervescent mixture ordered.

21. The urine being tested was found to be acid, and doses of carbonate soda were consequently given with aperient medicine.

25. To this day the condition of the patient was improved; but he now experienced a relapse into irritative fever, for which the same remedies were prescribed as in his former attack.

26. The fever had subsided; the urine had improved in quality, and was retained for longer periods.

27. Much better. From this period up to the 7th March he already improved, when he was allowed mutton chops for his dinner.

On the 10th March, No. 11 catheter was passed into the bladder, and the urine extracted was perfectly healthy. He had, on the 20th March, lost all pain

in the loins; he passed a full stream of urine without pain, and his general health was perfectly re-established.

The species of irritable bladder from which Stodart had suffered, Mr. Thomson said, was not unknown to authors: Sir Everard Home, Sir Benjamin Brodie, and Mr. Abernethy, were the best authorities, and all of them had experienced difficulty in defining the etiology of the disease. There existed, therefore, some ambiguity in the acceptation of the term "irritable bladder." It was to be distinguished carefully from the symptomatic irritation arising from organic disease of the prostate, urethra, or kidney, as well as from acute inflammation of the bladder, where the treatment would, of course, be materially different. The disease exemplified in the case of Stodart might depend upon various causes; it might depend upon a peculiar quality of the urine; it might depend upon a peculiar state of the nerves of the organ in which the sensibility was augmented, and the motor power enfeebled. Mr. Abernethy used to call this state of bladder "an undefinable state of the nervous functions." This was simply an acknowledgment of ignorance upon the subject, and was, perhaps, more useful than the promulgation of an ingenious but delusive theory.

Sir Benjamin Brodie stated that this affection was common in men of about fifty years of age, and was accompanied, generally, by an obstinate headache, which was occasionally mistaken for the primary disease, and mischief was consequently done through injudicious treatment. It would be necessary, when patients of that description complained of headache, to ascertain the condition of the urinary organs. Men in good circumstances at this time of life, having lost their zest for more active pleasures, often addicted themselves to the seductions of the table, and indulged their appetites to an inordinate extent. The powers of digestion were consequently injured, and the bladder was the first organ to sympathise with the general depravity of the health.

The first task of the surgeon was to diagnosticate between this disorder when arising primarily from the state of the bladder, and when arising from the presence of concretions in the kidney, or in the viscus itself: and from affections of the organs most intimately connected with the bladder. Acute inflammation of that viscus might be known by the severity of the symptoms: calculous concretions in the kidney, by the wasting and enduring hectic, and a careful application of the numerous diagnostic means devised within the last dozen years, could not fail to lead the judicious surgeon to a just appreciation of all the morbid changes affecting these parts.

The treatment of irritable bladder will be modified by the varying circumstances of each case. In general the diet must be plain and nutritive, but not stimulant. The patient should be placed often in the horizontal posture, but he should also have regular, though gentle, exercise. The emptying and periodical washing out of the affected viscus were of primary importance. The alimentary canal should, of course, be regularly cleaned out. When the urine was alkaline no medicine was so effectual as the phosphoric acid, given in doses of ten drops, three or four times daily. This might be combined advantageously with the decoction of the pareira brava, which he (Mr. Thomson) had found a most excellent tonic. After taking this combination for two or three days, the patient generally found the quality of his urine greatly improved, and the muscular power, both of detrusor and sphincter, augmented. He had always found the phosphoric acid much superior to the mineral acids. When the urine was acid the carbonate of soda, in scruple doses, was an admirable remedy, and, according to his experience, very superior to potass, although that alkali was recommended by the high authority of Dr. Prout. As auxiliary means in the treatment of irritable bladder, Mr. Thomson spoke very highly of copaiba, uva ursi, and colchicum. These were, also, very efficient alleviants in the symptomatic affections of that organ. Copaiba, especially in enlarged prostate, often afforded signal relief, by increasing the mucous secretions of the urethra. He could not concur in the praises which Sir Benjamin Brodie had bestowed on turpentine. In some constitutions that medicine aggravated all the affections of the urinary apparatus, and he (Mr. T.) had known instances where this medicine, when used for other maladies, had actually brought on the disease for which it was recommended as

a remedy. In symptomatic affections of the bladder all the symptoms of idiopathic irritable bladder might exist, and, therefore, in these cases the application of the various remedies he had suggested would be highly proper, though they might not be effectual in curing the patient. Phosphoric acid would be always proper when it was necessary to correct the alkalinity of the urine, and carbonate of soda, where acidity was the mischief to be removed; and in all chronic cases whatever added to the vigour of the general health must be conducive to good.

The occurrence of irritative fever was a circumstance often embarrassing to the surgeon; it arose apparently from catheterism, and it became necessary to desist from drawing off the urine of the patient. When the symptomatic irritative fever was removed by the means already designated, the catheterism might be resumed. The case of Stodart afforded an excellent example of what might be effected by very simple means when carefully and judiciously applied; nothing could afford a greater contrast than the actual state of the patient compared with his state on admission, on the 12th of last February. His general health was then at the lowest ebb, and every night his bedclothes were saturated with urine; but now the tonicity of the bladder was restored with the general tone of the system.

Mr. Thomson now exhibited an injecting syringe and several catheters constructed by Weiss. For the principle of these improved instruments we were indebted, he said, to the inventors of *lithotripsy*. Surgeons should be particularly careful to have the syringe made so as to suit the size of their own hands; the length of the piston should be adapted to the degree of expansion which the surgeon could effect between his fingers and his thumb; so that, having two fingers fixed in rings on each side of the piston, and his thumb in a ring on the top of the piston, he should be able so to expand his hand as to draw the piston completely up, by means of one hand only.—*Ib.*

ON THE COMPOSITION OF MOULDING TABLETS FOR FRACTURES, &c. &c.

BY ALFRED SMEE,
Dresser at St. Bartholomew's Hospital.

The importance of a substance that can be moulded accurately to any part of the body, at a moment's notice, must be admitted by every member of the medical profession; yet many difficulties attend the formation of a composition which shall, at the period of its application, be so yielding and soft that it may take an accurate cast of any part, and when dry shall still retain the form given to it, and become sufficiently hard to resist external impressions, and devoid of brittleness and much flexibility; and further difficulties present themselves when the capability of its being quickly dried is required; the advantage of lightness and cheapness would also be a great desideratum.

As I had frequently noticed that the combination of gum arabic and whiting, when dry, possesssd great hardness and toughness, and was yet so free from brittleness that it could scarcely be pounded in a mortar, I was determined to ascertain how far it would answer to make tablets which might be used to form extemporaneous splints.

For this purpose a piece of coarse sheeting was copiously brushed over on one surface with a thick solution of gum, after which it was covered with a composition made by rubbing whiting with mucilage, continually adding the powder until the whole was of the consistence of a thick paste; a second piece of sheeting was now rubbed over on one side with the solution of gum, and the moistened side applied upon the composition with which the piece of sheeting had been covered, and we thus had two layers of sheeting with an intervening layer of the composition of mucilage and whiting, forming a thickness which might be increased or diminished as strength or lightness is desired. The whole was then dried, and formed a tablet about the thickness of slight pasteboard.

This experiment succeeded beyond my most sanguine expectations, for whilst the tablet remained dry it was exceedingly hard, but when sponged over with a

little warm water became so yielding that by moulding it with the fingers a cast could be taken of any part of the body. The hand and knuckles were defined with great accuracy, and I succeeded by a little management in taking a cast of the greater part of the face.

It is sometimes advisable not to allow the substance to dry upon the part on which it is moulded; but after the depressions and elevations have been traced with the fingers it should be carefully removed and partially dried before the fire, and as soon as the texture is sufficiently dry to retain its shape, it may be placed near a stove, or even on the hob of a grate, without fear of being corrugated, or becoming otherwise deformed. In many cases, however, this drying is quite unnecessary, it being requisite only to envelop the moist tablet with a bandage. A cast thus taken is extremely hard and tenacious, so that, when not much thicker than a wafer, it may be struck violently and repeatedly against any hard substance, and not be destroyed. It possessed but slight flexibility, and after having been bent, it returned to its previous form, showing considerable elasticity. It was neither liable to be torn nor broken; and, lastly, it possessed the advantage of lightness, combined with durability.

Whilst in search for a moulding substance, I thought it advisable to try various compositions, in order that the best might be selected, but none appeared so excellent as that last described.

A composition of powdered starch and gum was spread upon linen, wetted with the solution, as in the first instance, when it afforded a good and firm tablet, but perhaps not equal to the first.

A paste made with gum and flour formed a good composition, but in all cases where flour is used there is a liability to more or less contraction. A mixture of plaster of Paris and gum dried very speedily, but was apt to crack, and did not wear well.

Compositions of white of egg, with the same substances to thicken it as were used to thicken the solution of gum, were next tried, the linen cloth being first smeared over with the albumen, but none were found to answer; and it was singular that the mixture of the sulphate of lime and the white of egg had so little firmness that it fell to powder when dry.

Boiled glue and whiting formed a hard tablet inferior to, but slightly cheaper than, that first described, and its unpleasant smell would prevent its use except in hospital or military practice.

Similar compositions of flour-paste were found utterly useless, having neither consistence, cohesion, nor strength. The decoctions of the Iceland moss and linseed were found also inapplicable. The preparations of dextrine were next tried, and a mixture of carbonate of lime with the solution of dextrine made a composition which answered very well. Of all these preparations, and many others that were tried, few were applicable; and none in all respects equal to the composition of gum and whiting, both of which substances are always easily obtained, and have the additional advantage of cheapness.

The solution of gum which was found most eligible contained ten or twelve ounces of gum arabic to the pint of water.

As far as regards the nature and texture of the cloth, it is to be remarked that linen is stronger than cotton, and less liable to be torn, and therefore to be preferred. Of the various kinds of linen none moulds so perfectly as moderately coarse old sheeting; for when the tablets were made of finer Irish linen they were very inferior in this respect.

The application of these tablets is rather extensive; they may be used with great advantage for all fractures of the metacarpal bones; also for those of the forearm, or even of the humerus. When the humerus is fractured, the method which has been adopted is, to cut a piece of paper somewhat in the shape of the required splint; it should cover a portion of the pectoralis major, and extend as high as the bend of the neck, and include the whole of the scapula: from this broad plate a piece descends to the bend of the elbow, and should be sufficiently wide to cover about two-thirds of the outer part of the arm. The paper is then placed on one of the prepared tablets, which is cut to a similar shape. The piece, thus prepared, is moistened until it becomes perfectly soft, and it is then moulded

on the arm and neck. From the general shape of these parts there will be found a superfluity of substance about the deltoid, which must be pinched up and turned down, so as to force a fold over the other part. The splint, then, may be in a degree dried, and its inner surface lined with lint. The whole is to be enveloped in a starched roller.*

This mode of proceeding may appear tedious, but it is a source of much comfort to the patient, for whilst the upper arm is enveloped in this hard case, so that it is quite immoveable, the forearm and hand may be left loose, and the patient may, in some degree, enjoy the use of them. The benefit of this mode of treating fractures is not confined to the patient only, it lessens also the labour of the surgeon; for when the injured limb is once put up in this manner it requires no further attention for days, weeks, or even till the cure is accomplished. Its application to chronic diseases of the joints will be found particularly useful. In these cases two lateral splints are to be formed, and enveloped in a starch roller.

It is hardly necessary to add, that in fractures of the lower jaw it must prove a valuable auxiliary. Great, however, as these advantages may be, perhaps they are trifling in comparison with the importance of its application to simple fractures of the leg. The mode of treating at St. Bartholomew's Hospital has been for some months the method first adopted by Mr. John Lawrence, of Brighton. His plan was to form two strong splints on either side of the injured leg by successive layers of pieces of bandage, united together by white of egg and flour. Now, as far as his method is concerned, it requires no improvement, as durability, strength, and an accurate cast are obtained by this mode of proceeding, and the numerous cases which have been treated by it at the hospital show its complete success. By using the tablets formed of gum and whiting, upon the same plan as that of Mr. John Lawrence, a great saving of the surgeon's time is effected, and equal firmness and durability obtained. The mode in which I have made splints for the leg is first to obtain the exact shape by drawing a piece of sheeting or paper round the leg, and marking the part which corresponds to the tibia for the whole length of the leg, and continuing the line on the foot to the extent it may be considered necessary to cover.† By this means it is apparent that the exact size of the limb is obtained; but as the leg is to be enclosed by two splints, it becomes necessary to divide the cloth into two, which will give an exact pattern of either splint. These splints are to be moistened and moulded, and after being first lined with lint or leather, the whole is to be enveloped by a roller soaked in boiled starch.

This composition of gum and whiting has answered perfectly in the cases in which it has been tried, and splints made of it are, perhaps, superior to the splints made with flour and white of egg, because when dry they preserve accurately the shape of the limb, and do not at all corrugate, which all compositions of flour are liable at times to do. Fractures of the patella are treated in a similar way, a splint being placed on either side of the knee, extending from the centre of the thigh to about the centre of the leg. The patella is not to be covered with these splints, but a gap corresponding to its shape left, and the two pieces or splints are not to meet accurately at any part, but an interval is to be left of about three-quarters of an inch, or an inch, during their whole extent. In enveloping these splints for fractures they are not to be applied when there is much inflammation or swelling, but the part should be allowed first to get into a perfectly quiet state, or leeches, cold water, and poultices should be applied, if necessary, to effect this object. In general a delay of a week, ten days, or even sometimes three weeks, is required; but in some favourable cases there is no occasion to wait, and the splints may be applied with safety and advantage on the second or third day after the accident. This mode has also been adopted in favourable cases of compound fracture; but most surgeons are agreed never to cover these wounds with concealing bandages. It is not for me to expatiate upon the advan-

* The roller is merely soaked in boiled starch, and wound up in the usual manner before it is applied.

† Either splint should overlap the heel and under surface of the foot in cases where they are used immediately after the accident, but where this application is delayed this is of no importance.

tages with which this method of treating fractures is attended, for that belongs rather to Mr. John Lawrence, as the first adopter of the principle, but the fixing of the bones more firmly and securely than can be accomplished by any other method; the prevention of loss of health, by enabling the patients to walk on the fourth or fifth day after receiving the accident, and permitting them to be removed to a situation more healthy and airy; the prevention of stiff joints, and the more speedy and final uniting of the bone, are advantages too great to be passed over unmentioned.

These advantages are likely to be enjoyed by a greater number when the time required for the first application of the splints is diminished, and the objection is removed of allowing the limb to remain without bandages during the time required for the drying of the splints; the tablets which I have described possess these additional advantages, and with these superior cheapness is also conjoined. —*Ib.*

EXTRACT OF TARAXACUM.

GENERALLY has a sweet taste, and is readily soluble in water; but Mr. Squire who has paid much attention to this and other extracts, informs me that, when cautiously prepared, and not unnecessarily exposed to the action of air, the extract is bitter, and that, when sweet, the medical efficacy of the remedy is impaired. It may be given in doses of half a drachm, or more, four or six times a day, dissolved in some aromatic water—a form preferable to that of pill. It may safely be prescribed as an alterative in cutaneous affections, and in those derangements of general health which are accompanied by obscure hepatic symptoms, and in which the usual treatment is ineffectual. Taraxacum is thought well of by several foreign writers of eminence, and is by them generally recommended in the form of liquid extract, or, as it is sometimes termed, *Mellago Taraxaci;* the expressed juice of the fresh root is also used in the dose of two fluid ounces every morning, with an equal quantity of milk.

According to John, the juice of taraxacum contains bitter extractive, caoutchouc, traces of resin, sugar, gum, a free acid, and sulphate, muriate, and phosphate of potassa and lime. For the following particulars respecting this root and its extract, I am indebted to Mr. Squire:—

"Fresh taraxacum root, when crushed and submitted to pressure, varies exceedingly, even in the same week, in the produce of extract, without any material difference being discernible in the root itself; and the average results of each month, taken separately, show a marked difference in the strength of the juice at different seasons. In the winter months, when it should be dug up for medicinal use, the fresh root loses, on drying, 75 per cent. of water. This root, washed, crushed, and pressed, will yield half its weight of dark juice, which coagulates, and becomes of a fawn colour. It yields, on evaporation, 25 per cent. of extract; but if the expressed roots be further digested, more extract is obtained.

At different seasons of the year, one pound of extract is afforded by the following proportions of the expressed juice; namely,

January and February 4 to 5lbs. of juice = 1lb. of extract.
March - - - - - 6 to 7lbs. of juice = 1lb. of extract.
April, May - - - - 8 to 9lbs. of juice = 1lb. of extract, and during these months the juice is so aqueous, that it does not coagulate spontaneously, as it does during the preceding months.
June, July, August - 6 to 7lbs. of juice = 1lb. of extract, and now it again coagulates; the old roots are spongy, and the new ones very slender.
In Sept. and October 4 to 5lbs. of juice = 1lb. of extract.
In Nov. and December 4lbs. of juice = 1lb. of extract.

During November and December the root is in the most vigorous condition, and most abundant in those ingredients upon which its medicinal powers depend. Frost has a singular effect upon the growing roots, causing the bitterness to

decrease, and sweetness to take its place; it is also observable that, on the disappearance of the frost, the bitter returns in a stronger degree, and the sweetness disappears.

The *dark* extract of the shops owes its sweetness to a curious change in the juice during evaporation; and if this process be much protracted, acetic acid is formed, which imparts to the extract a sensible acidity. When carefully prepared extract of taraxacum is of a brown colcur, has a sensibly bitter taste, and a peculiar aroma, but it is not so sweet.

From the chemical examination which Mr. Squire has made of the expressed juice of the root of taraxacum, it appears to contain gum, albumen, and gluten, an odorous principle, extractive, and a peculiar crystalizable bitter principle soluble in alcohol and water.—*Brande's Dic. Mat. Med.* 1839.—*Med. Gaz.*

ON THE BI-MECONATE OF MORPHIA.

To the Editor of the Medical Gazette.

Sir:—In reflecting upon the influence of the artificial salts of opium, and the powers of opium itself on the animal economy, it appeared to me that, like other natural products, the combination of the active principle in the substance, as prepared by the hand of nature, would prove most beneficial as a therapeutic agent, if it could be separated from the other components of the vegetable body.

Impressed with this idea, I have instituted a series of experiments, with a view to procure the bi-meconate of morphia as free from the other ingredients of opium as possible, and have obtained a preparation which not only answers these anticipations in a chemical point of view, but which has also, from the experience of several medical friends, fully answered my expectations of its medicinal advantages over the artificial preparations of opium. The subjoined reports are illustrative of this fact, and induce me confidently to submit the preparation to the profession generally, and to call upon the members of it for an opinion of its value: if this correspond with the trials already made of it, I shall not only look to the support of the faculty for its employment, but shall feel a high gratification in having enhanced the value of a medicine which, when properly administered, may be regarded as one of the choicest gifts to suffering humanity.

I have the honour to remain, your obedient servant,

277, *Oxford Street*, *March* 4, 1839. P. Squire.

Note from Dr. Macleod to Mr. Squire.

Dear Sir:—I have now used the solution of the meconate of morphia in cases sufficiently numerous to enable me to form an opinion with respect to its powers.

It appears to me to be a very mild and efficient preparation, rarely producing headache or other discomfort. It has repeatedly answered, in the most satisfactory manner, where opium had disagreed, and has succeeded in some cases where the other salts of morphia (the acetate and hydrochlorate) had failed to give relief. I am, dear sir, your obedient servant,

1, *Lower Seymour Street*, *Feb.* 11, 1839. R. Macleod.

To Mr. P. Squire, from Henry Brandon, Esq.

My Dear Sir:—I have much satisfaction in complying with your request to furnish you with an account of the effect which the solution of meconate of morphia (same strength as laudanum) has had upon me, in comparison with other preparations of opium that I have taken.

My experience, as an individual, may probably be interesting, as well as somewhat useful.

I have been the martyr to a spasmodic affection of the muscles for upwards of fourteen years, and was obliged, after trying every other means in vain, to have recourse to opium.

I have taken crude opium, laudanum, the aqueous extract of opium, black drop, liq. opii sedativus, and acetate of morphia; and I declare that not one of them has succeeded so well as the meconate of morphia, which relieves much

sooner, and without disturbing the stomach, leaving the system altogether in a more natural state of repose. My experience has taught me that anodynes ought to be taken in solution, having found, that when taken in the solid form, they irritate by producing qualms in the stomach, frequently amounting to nausea. The aqueous extract does this less than the crude, but narcotics are much more free from the exciting quality when in solution; and the solutions themselves, the purer and more free they are from the resin and other impurities, the less do they produce that unpleasant effect; whether there be any additional cause why your meconate of morphia relieves so much quicker and strongly than others you yourself best know.

My firm belief is, that the qualm or unpleasant sensations in the stomach interfere materially with the soothing properties of the opium, and finding your preparation so free from these objections, added to the taste remaining a much shorter time on the palate than is the case with the other preparations of opium, I am induced to continue the use of it.

The greatest quantity of opium that I ever took was in June, 1838, at which time I was suffering under a dreadful attack, when in seven consecutive days I took as much as 540 grains of the aqueous extract of opium, which is equal to 810 grains of the crude.

I have taken ten grains of acetate of morphia at a dose. My total consumption of opium for the year 1838 was equal to 49 pints, 1 oz. laudanum and upwards.

It is singular that none of the preparations of opium have ever confined my bowels or injured my appetite, although I take no exercise; indeed a large dose of opium invariably increases my desire for food, and sometimes to a ravenous degree.

I shall now conclude, and believe me, my dear sir, yours very truly,

HENRY BRANDON.

14, *Percy Street, Bedford Square, Feb.* 18, 1839.

To Mr. P. Squire, from A. T. Thomson, M. D., Professor of Materia Medica in the University College, &c.

DEAR SIR:—I have given a fair trial to your new preparation of opium, the bi-meconate of morphia, which when separated from many of the other constituents of the opium, undoubtedly possesses anodyne properties superior to any of the salts of morphia in ordinary use. I have not had many opportunities of administering it in the hospital, but where it has been given, in painful affections, its influence has been most striking.

I have administered it in three cases in private practice, well calculated to illustrate its properties.

The first was a neuralgic pain of the left side of the face, extending from the temple to the molar teeth of the upper jaw. It remitted during the day, but never wholly subsided, and returned with frightful severity at night. Among other means which were employed, anodynes of various kinds were tried, both topically and internally administered—namely, extract of opium in combination with calomel—hydrochlorate of morphia—acetate of morphia—Battley's sedative—and the black drop; belladonna, in small and frequently repeated doses; and in the form of plaster, hyoscyamus, both extract and tincture—and the extract of aconite. Temporary ease was obtained from the salts of morphia and the extract aconite, but no permanent advantage resulted, although the pain assumed more of an intermittent character; and, consequently, disulphate of quina and the arsenical solution had been freely administered. The strength of the patient was nearly worn out for want of sleep; and, under these circumstances, your solution was prescribed. Thirty minims were prescribed in a fluid ounce and a half of camphor mixture at bed-time. Two hours' sound sleep were procured, and, on awaking, the patient felt the most satisfactory abatement of her sufferings. She was ordered to continue it in doses of eight minims, in combination with fifteen minims of the arsenical solution, every third hour during the day, and to repeat the full dose of thirty minims at bed-time; whilst, at the same time, the bowels were kept moderately lax. The most gratifying results fol-

lowed this plan of proceeding: the pain gradually yielded; in less than a week she had comfortable nights; after which the dose of the solution was rapidly diminished; its use discontinued during the day; and in the third week I had the satisfaction of leaving her perfectly free from the complaint.

The second case was one of wakefulness without any apparent cause. All the usual preparations of opium had been tried without much benefit, and with suffering from headache and nausea in the mornings following the nights on which the narcotics had been given. The solution of bi-meconate of morphia was given in doses of twenty minims; it effectually procured sleep, and was not productive of the morning distress which had supervened on the use of the other preparations of opium.

The third case was one of anomalous pain of the hip extending down the thigh, which recurred three or four times in twenty-four hours. The patient had been frequently attacked with rheumatism; and conceiving it to be connected with that disease, the part was cupped, and the guaiacum mixture, with small doses of the blue pill, was prescribed. Little benefit resulted until a week afterwards, when I ordered the part to be blistered, and the denuded part to be dressed with a piece of lint dipped in your solution thrice a day. The pain rapidly abated, and on the fourth day it was completely gone.

From the limited experience which I had of the use of the solution, I am of opinion that it possesses decided anodyne properties, and stimulates less than opium or its tincture, and is much more certain in its influence than any of the artificial salts, or other preparations of the drug.—Believe me, yours truly,

ANTHONY TODD THOMSON.

3, *Hinde Street, Manchester Square, 4th March*, 1839.

STRYCHNIA IN RETENTION OF URINE.

BY EDWARD AUGUSTUS CORY, M.D.

MARY JONES, æt. 30, a primaparous patient of the East London Midwifery Institution, was delivered, rather more than a month ago, of a full-grown male infant. The membranes had been prematurely ruptured, in consequence of some sudden mental excitement, and before the commencement of any dilatation of the uterine orifice. The parturient pains, after the lapse of several hours, became marked by a peculiar severity, with no corresponding relaxation on the part of the os uteri, which presented to the "touch" the most obstinate rigidity. Venesection was performed to nearly ℥xx. She was again visited after an interval of 4 hours. There appeared, however, to be no material alteration in the state of the parts, with the exception that the vaginal passage was found to be rather more lubricated with moisture than at the previous visit.

Habeat Antimonii Potassio-tartratis gr. ij. et Aq. Destillat. ℥iss. in Mist. cujus pars quarta quâque semihorâ capiatur.

Warm fomentations were ordered to be assiduously applied to the genital fissure. The bladder and rectum had been freely evacuated. The necessary relaxation of the structures concerned in parturition gradually occurred, and at the termination of an additional eight hours the parturient process was completed. I was requested to revisit her on the expiration of about twelve hours, as she was in great pain, and had passed no urine. The catheter was immediately introduced, and the evacuation of the bladder afforded considerable relief. On the third day after delivery, some symptoms of peritonitis were evident, which, however, were subdued by a strictly antiphlogistic mode of treatment. It will, perhaps, be sufficient to state, that it was found necessary to perform catheterism twice a day for nearly three weeks; and during that period there was not the slightest ability to discharge the urine, although repeated attempts were made to effect so desirable an object. As so long a time had elapsed, and as there did not appear to be any disposition on the part of the bladder to recover its original tone, I was induced to make trial of the strychnia, from the recorded accounts of its action in paralytic affections. I accordingly prescribed one-

sixteenth of a grain of that substance three times a day. I was, I must confess, somewhat surprised to find that my patient, after taking the second dose, was enabled to pass her urine *suâ sponte*, and with ease and comfort to herself. She continued the strychnia, in the above dose, until about a grain of that medicine had been administered. There has been no return of the retention, and she is now completely convalescent. It may possibly be asked by some of the more incredulous portion of the medical community, whether this patient might not have ultimately recovered from the retention of urine without the administration of the strychnia? I can only answer that numerous cases of retention of urine after labour have fallen under my observation, and in which the repeated introduction of the catheter had alone been sufficient to effect a perfect cure; but in no individual instance do I recollect the retention to have continued much beyond a week. I do not believe that in the present example, the bladder would have recovered its contractile power so rapidly, if the strychnia had not been employed, although I candidly think that long-continued catheterism might of itself have eventually contributed to restore that viscus to its wonted tonicity. The frequent introduction of the catheter, however dexterously performed, is naturally repugnant to that innate modesty, which constitutes the brightest gem in the character of Englishwomen, whatever station in society they may be destined to occupy. I have only to add, in conclusion, that the beneficial effects were *post hoc*, and that it may very reasonably be inferred, they were likewise *propter hoc*. I beg leave to disclaim all pretensions to originality in the use of the strychnia in such cases; for Signor Cerchiari some time since communicated to the profession, through the medium of the "Bulletino delle Scienze Mediche di Bologna," some very interesting observations, in which he has forcibly demonstrated the good effects of the nux vomica in incontinence of urine, or inability of the patient to retain that fluid; but he does not appear to have administered it in cases of simple retention. The extract of nux vomica, and not the strychnia, was used by Professor Cerchiari, to whom is decidedly due the merit of having first administered this substance in paralytic affections of the bladder. It may be proper to remark that two additional cases of incontinence of urine, similarly treated by Dr. Cerchiari, have been published in a late number of the Medico-Chirurgical Review.—*Med. Gazette.*

THE PREVALENT (LONDON) EPIDEMIC.

To the Editor of the Medical Gazette.

Sir:—With your permission I will take the liberty of drawing the attention of your readers to the principal symptoms of an epidemic now prevailing in this metropolis.

The first signs of an attack are pains at the epigastrium and hypochondria, generally increased by pressure, giving rise in some instances to the suspicion of inflammation. There is anorexia, much lassitude, an excited pulse, a white tongue, and a hot skin. In a few hours a well-marked shivering attack is observed, succeeded by fever of a remitting character; during which the strength is completely prostrated, and the mental powers considerably disturbed. The pulse rises to 120, but is very feeble; the heat of surface is extreme, the pains of the side severe, and the sleep much disturbed. After continuing three or four days, the symptoms begin to subside, generally terminating with profuse perspiration.

But the most remarkable feature in this epidemic remains to be noticed. Although the illness has not continued more than three or four days, such has been the shock upon the nervous system that it leaves the patient completely prostrated. His countenance expresses much debility; the voice becomes feeble; and when he attempts to walk, he is seized with instant vertigo, and obliged to desist. Days and weeks elapse before the strength is restored; and where the patients are of delicate habits, and advanced in life, there is danger of their sinking under the shock that they have sustained.

The principal point to be observed in the treatment of this disorder is to avoid

the use of the lancet. Cases have come under my notice where blood-letting has been employed to combat supposed inflammation, in which the consequences have been most deplorable. In fact, little treatment is necessary, except keeping the bowels open, and the exhibition of saline aperients. In some cases, however, it is necessary to prescribe diffusable stimulants, or tonic remedies, even from the commencement of the attack.

These remarks may be sufficient to draw the attention of your correspondents to this important subject, by which means communications of greater importance may be elicited. I remain, sir, your obedient servant,

March, 1839. LONDINENSIS.

CASE OF PUERPERAL MANIA,

WITH REMARKS.

To the Editor of the Medical Gazette.

SIR,—In your report of the proceedings of the Physical Society, Guy's Hospital (*Gaz.* Nov. 12, 1838), is an account of a paper by Dr. Ashwell, and discussion on the morbid effects of undue lactation, with remarks on puerperal mania. If you should consider the accompanying case of this latter disease, which has lately come under my notice, worthy of recording, I shall feel much obliged by its insertion in your journal, with some few observations connected with it. Your obedient servant,

J. D. JEFFERY. *Surgeon, &c.*

Sidmouth, March 10, 1839.

On Monday, Dec. 12, I was sent for to see Mrs. Slade, who had engaged me to attend in her confinement, expected to take place about Christmas. She is a thin spare woman, with pale countenance and large dark eyes; has had four children. She fancied the pains of labour were coming on, and evinced great anxiety of manner. I found from conversation that the pain she had felt was exceedingly slight, and occurring at long intervals.

Ordered an opiate, and desired her to go to bed early.

13th.—Found her in her room; her manner was strange and incoherent; she wished me to make an examination. I found the head of the child low down; os uteri dilated about the size of a shilling, but rigid, and strongly contracting on the finger; pulse 90, soft. Ordered—

℞ Mist. Camphoræ, ℥vss.; Tr. Opii, ℥iss.; Sp. Lavand. ℥j. M. st. coch. dua magna 6ta quâque horâ.

In the evening I found her exhibiting all the symptoms of puerperal mania, rolling about in the bed, exclaiming loudly, and saying the strangest things,—among others, that her husband, who was then absent, had been killed. Pulse still 90, and soft; and her bowels not having acted since yesterday, ordered—

Ol. Ricini, ℥iss.

14th.—Has passed a very restless night, with seeming symptoms of labour pains. She stares vacantly at every one around, and utters various exclamations; now grasping at vacancy, then apparently endeavouring to stifle herself in the bed-clothes. Perspiration covers the body; os uteri not more dilated than yesterday; pulse still soft, and not quicker. Bowels not having been opened, ordered—

Three strong aperient pills, continuing the mixture twice a day.

15th.—Has passed a very troublesome night, being with difficulty kept in bed; bowels have not acted. She now refuses to take any thing, except occasionally a little wine and gruel; she refuses medicine, exclaiming, "it is poison!" On making an examination I find the os uteri *in statu quo;* and on endeavouring to dilate it, it contracts and pinches the fingers; it is turned very much towards the sacrum, and tilted upwards. Pulse about the same as before.

Ordered an enema.

16th.—Has passed a quieter night, but still looks wild, and is insensible; takes more nourishment than yesterday.

Ordered a dose of strong aperient medicine.

Evening.—The medicine has produced several copious evacuations, since which she has been much quieter, and answers many questions rationally. The os uteri is not so rigid, and is somewhat more dilated. I then thought it advisable, in concurrence with the opinion of my fellow-practitioner, Mr. Hodge, who then accompanied me, to endeavour to bring on labour. Ordered—

℞ Tr. Secale Cornut. ℥vj.; Tr. Cardam. C. ℥iij.; Aquæ, q. s. ut ft. mist. ℥vj. st. coch. dua magna omni horâ.

17th.—I was called in a great hurry this morning, at half-past eight. I found her lying on her back, looking wild and pale, and talking incessantly. On making an examination I found the head of the child without the vagina, and she had it grasped firmly in her hand. A pain soon came on, and delivery was accomplished. She seems quite unconscious of what has taken place. The placenta soon followed, and no hæmorrhage occurred. Her attendants informed me that she had slept four hours in the night, and had taken six doses of the medicine. The pulse after delivery was 80, and she had taken a glass of wine and water.

2 o'clock, P. M.—I find her still talking incessantly; pulse has risen to 100, but soft and weak. Ordered—

Sixty drops of laudanum, to be given in water as an enema; and

℞ Mist. Camphor. ℥iv.; Liq. Opii Senativ. ♏lxxx. M. st. 4tam partem 4ta quâque horâ.

18th.—Has passed a very restless night; her attendants could scarcely keep her in bed.

Ordered an aperient enema and draught, the bowels not having been opened for twenty-four hours.

Pulse reduced to 80; her feet being cold, mustard cataplasms were applied, which remained on an hour.

19th.—Still the same in most respects, but the pulse is lower—70; bowels have been copiously relieved during the night; evacuations not unhealthy. She takes beef-tea, and occasionally wine and gruel. I now gave her the Ol. Terebinthinæ in drachm doses, with Mucil. Acaciæ, and Mist. Camphor. every four hours.

12 P. M.—Her raving is worse. I found her with the straight waistcoat on. Has taken two doses of the medicine, which has not affected the bowels. Ordered the region of the cerebellum to be shaved, and a blister applied.

Ordered a mixture containing Antimon. Tart. gr. iv. st. 4tam part. quartâ quâque horâ.

Narcotics seeming to do rather harm than good, it occurred to me that the hydrocyanic acid—as a medicine which may be called purely sedative—might be the best adapted to her case.

℞ Acid. Hydrocyanic, ♏v. Mucil. Acaciæ, ℥ij. ft. haust. quartâ quâque horâ sumend.

22d.—She has passed a better night, and the nurses say she became more tranquil soon after taking the first dose of the medicine. I find her more sensible.

Evening.—Still better, and has been quiet through the day.

Continue the medicine.

23d.—Has passed a tolerably quiet night, and is certainly slightly improved since yesterday. The nurse says she is certainly decidedly better after each dose of the medicine, which I ordered to be continued.

24th.—She continues to improve rapidly. Having taken twelve doses of the acid, I deemed it unnecessary to proceed with it further.

February 19th.—She had been on a visit to some relations, and is returned perfectly sensible, and to all appearances well.

Remarks.—Puerperal mania is not a common disease, and therefore it is not every one, perhaps, of your readers who will take the same interest in the report of this case: but there are circumstances connected both with its appearance and the treatment, which, I trust, will not be uninteresting to some.

1st. It is not usual for mania to come on before delivery; it commenced in this case at least five days previously. All writers on the diseases of women, and Dr. Gooch in particular, treat of puerperal mania; but I find none, as far as I have the means of ascertaining, who mention it but as a consequence of childbirth.

This disease is fearful under any circumstances; but it becomes much more so to the medical attendant in particular, when he has to contemplate the difficulties and chances of delivery in a patient who is insensible, and whose violence often prevents the possibility of even an examination.

As soon as I could be certain that the os uteri was sufficiently dilated, and without much rigidity, I deemed it advisable, in conjunction with the opinion of my fellow-practitioner, to endeavour to hasten the process of parturition; hoping that when the uterus was relieved of its burden, the sympathetic effects on the nervous system would be abated, if not cease. And here is to me the second point of interest, viz: that I am furnished with another in addition to the many proofs I have before had of the power of the secale cornutum to effect, under certain circumstances, a safe and effectual action of the uterus. Delivery was accomplished safely and easily in a reasonable time, and, I believe, hæmorrhage prevented, which would, in all probability, in this case have been ultimately if not immediately fatal.

3dly. The cerebral affection exhibited in the form of mania, the peculiarities under which they were excited, and the effects of different remedies, afford matter for contemplation.

The patient had been subjected to much mental anxiety, as well as bodily exertion, previous to her illness: having for some time performed the office of carrier, and driven a wagon to Exeter, a distance of sixteen miles, for her husband, who neglected his business, and also ill treated her, which doubtless induced that depression of the corporeal powers and excitement of the nervous system which led to her ultimate attack.

With regard to remedies, I certainly am of opinion that the hydrocyanic acid was productive of the greatest benefit.

I am aware that the remedy last used is apt to receive the whole, and often very unmerited praise; but in this case I did not depend on my own observation. I was much gratified on questioning the nurse, who, of her own accord, dated the improvement and tranquillity of the patient from the first exhibition of the medicine, and moreover stated, that "she became quieter after each subsequent dose."

From the results of the above case, I should be induced, to try, in a similar one, the hydrocyanic acid in preference to other medicines—such as opium, hyoscyamus, &c. which may be called narcotico-sedative.

The hydrocyanic acid seems to act purely on the nerves themselves, without deranging the circulation to produce narcotism; and thus I am led to believe that it is a remedy very superior to most other medicines, inasmuch as its effects are purely sedative.

In that particular lancinating pain felt at the epigastrium, like dyspeptics, I have often found the hydrocyanic acid act like a charm: but it must be administered in a simple form—such as with gum arabic and water. I believe its efficacy is much diminished by an admixture with other drugs, particularly with those of a stimulating nature.

After my experience of its action in the above case, I was led to think that prussic acid would be a useful remedy in delirium tremens; and at my request it was tried by my friend, Mr. Hodge, on a patient of his who was labouring under that disease in its worst form. He informs me that his patient, under its exhibition, became much quieter, but the case being an extreme one, and the man ultimately dying, I do not adduce it as a proof of the correctness of my views.

But, nevertheless, I think there are no two diseases which exhibit symptoms so nearly alike as delirium tremens and puerperal mania; and I believe there are no two organs in the body whose sympathies with the brain are more intimate and sensitive than are the stomach and uterus. A thought, we know, or sudden unpleasant intelligence, will disorder the functions of digestion; and again, indigestible matter or stimulating fluids in the stomach will occasion violent disorders of the mind, and often fatal effects on the brain. On the other hand, how intimately is the excitability of the uterus, considered as a sexual organ, connected with the thoughts and imaginations of the mind; and during gestation, in particular, most of its disorders are referable to the mind. With this knowledge, then, we cannot be more surprised that mania should occur through uterine sympathies, than that delirium tremens should be the result of a constant repetition of spirituous stimuli in the stomach.

With these views, I would venture to suggest to the profession a trial of the hydrocyanic acid in some case of extreme nervous affections, but more particularly of delirium tremens, which too often prove fatal, or are painfully protracted, through the failure of remedies in exerting any control over them.

ANÆMIA CURED BY PROTO-CARBONATE OF IRON.

BY EDWARD JAY.

C. J., æt. 23, a young woman, of lymphatic temperament, slightly inclined to embonpoint, and with an hereditary predisposition to pulmonary disease, her mother and two sisters having fallen victims to phthisis; has been as long as she can remember the subject of bad health, which she ascribes to the fact of never having menstruated properly. Two years ago, she was attacked with intermittent fever, and disease of the liver, both which diseases gave way under treatment, leaving, however, a state of debility, which has been increasing until it is arrived at its present alarming degree. There has been no appearance of catamenia for the last two years.

Present state.—The surface presents a general bloodless appearance, most striking on the conjunctival membrane, lips, and under the finger nails—in short, wherever there is usually more colour; expression of countenance heavy and oppressed; constant pain referred to the vertex, increased by stooping, unrelieved by lying down, and worse always in the morning.

Although the surface of the body is cold, and there is a general feeling of chilliness, some increase of temperature occurs in the palms of the hands towards evening, succeeded by a slight tendency to perspiration; great dyspnœa on making any exertion; œdema of the feet and ankles; constant dull pain between the shoulders and in the left hypocondrium. Restlessness at night, with disturbed sleep and frightful dreaming. Anorexia; tongue of a pale lilac hue; bowels costive; stools clay-coloured. Voice feeble; slight cough and trifling expectoration. No dulness on percussion beneath the clavicles. Respiratory murmur heard distinctly on both sides of the chest. Respirations frequent; action of the heart violent and frequent, and accompanied with a bellows sound. Pulse 90, and sharp.

For the relief of this condition she was recommended to take Ferri Carbon, in doses of ℥iij. ter in die. This she continued for more than a month, but without any benefit, becoming in fact worse; she then was under the care of a physician of eminence, who gave her cascarilla with ammonia, and an aloetic pill at night. She persevered for some time without success, and it was resolved to give the iron in the following form; and as the anæmia might, perhaps, be connected with the remains of ague, quinine was added.

℞ Acid. Sulph. Dil. gtt. xlv.; Ferri Sulph. gr. ij.; Tr. Lavand. Co., Syr. Aurant. aa. ℥ss.; Aquæ, ℥iss. M. ft. haust. ter in die, c. Pulv. Sodæ Carb. gr. x., et in impetu effervescent. sumend.

℞ Quininæ Sulph. gr. ij.; Con. Rosæ, q. s. M. ft. pil. i. ter in die sumenda.

Also, the bowels were slightly acted upon by a night-pill, containing small doses of blue pill and Pil. Aloes cum Myrrha.

Soon after commencing this treatment the patient rapidly improved; perhaps the change was as striking as can be ever effected by medical means. Some colour made its appearance on the surface; the headache was gone, the appetite good, and exercise was no longer attended with dyspnœa. After continuing some time, every symptom was removed, and she declared herself better than she could ever remember to have been. The catamenia have not appeared, but the probability is that they will, as their non-appearance undoubtedly was the result of deficiency of material for their formation. The interest of the case appears to be, that when the sesquicarbonate of iron failed to effect a cure, the protocarbonate was at once successful. It is also a question, whether at the same time getting rid of any effects of malaria by quinine, and re-establishing the intestinal secretions, did not assist? At any rate, the result was striking and satisfactory.—*Med. Gaz.*

LARGE DOSES OF ACTIVE REMEDIES.

M. Forget, professor in the medical school at Strasburgh, has lately published, in the *Bulletin de Thérapeutique*, several interesting cases, showing the *tolerance* of some remedies in extraordinary doses.

Case I. *Tartar emetic.*—A robust butcher, aged 40, labouring under acute articular rheumatism, took tartar emetic in a potion, first in the dose of eight grains, then ten, fifteen, twenty, thirty, forty, sixty, and seventy-two grains (a drachm), and this without any disorder of the intestinal canal, or any other bad symptom. The tongue was moist, but whitish; the patient always ate quarter diet, but became disgusted with the potion, and it was discontinued. Thus in the space of ten days, he took, without inconvenience, about three drachms of tartar emetic. Nevertheless he had a relapse of the rheumatism, but was cured by colchicum wine.

Case II. *Kermes mineral.*—A man, aged fifty-five, emaciated by a chronic disease of the chest, not being able to bear a potion containing six grains of tartar emetic, took four grains of kermes instead, which produced an inclination to vomit. The next day he took six grains; a dose which was increased to fifteen, thirty, and seventy-two, without any bad symptom; but the remedy was discontinued, having no effect on the congestion of the bronchi.

Case III. *Pomegranate root bark.*—A girl of four-and-twenty, fair, and of a lymphatic temperament, had suffered from tænia since her childhood, and frequently passed fragments of the worm in her stools. She took two ounces of the bruised bark of the pomegranate root boiled in two pounds of water, at thrice, with half an hour's interval between the doses, but without effect. The dose was now increased to three ounces, and two tapeworms were expelled; so that in two days, and without any abdominal disturbance, the patient took the decoction of five ounces of the bark of pomegranate root.

Case IV. *Ioduret of starch.*—Dr. Buchanan, of Glasgow, in 1836, published in the London Medical Gazette, some remarks on the exhibition of this substance in the enormous dose of 72 grains and more, without any bad symptom.

M. Forget tried this remedy on a youth of 17, labouring under lymphatic turgescence, with ganglionic tumours of the parotids, scrofulous ulcers, &c. The iodine was first given in the dose of 24 grains, with an ounce of starch. The iodine being triturated with a glass of water, was carefully mixed with the starch, and being then diluted with a pound of decoction of rice, was taken in the course of the day, in four doses. The ioduret of starch was borne perfectly well, and the dose was increased to an ounce and a half, two ounces (containing 48 grains of iodine), and two ounces and a half. The fæces were of their regular colour, and the urine, when treated with nitric acid, gave a yellow tint to white paper, or a deep blue when the paper was previously covered with starch: hence it appeared that the ioduret of starch was wholly absorbed. The dose was increased to three, and then to four ounces (containing 96 grains of iodine), but without lessening the disease. The patient now became disgusted with the remedy, and it was discontinued. In forty-eight days he took 139 ounces, or nearly nine

pounds of ioduret of starch containing 3336 grains, or nearly six ounces of iodine; being nearly sixty-six grains a day, of this active substance.

CASE V. *Bleeding.*—A patient, aged 30, of a splendid constitution and sanguine temperament, was attacked with violently acute articular rheumatism. Thirteen general bleedings of twelve ounces each, and 125 leeches or cupping glasses, abstracted at least fourteen pounds of blood in fourteen days; ten of the general and three of the local bleedings were performed in ten days, without the slightest fainting, the slightest *souffle* in the carotids, or the least œdema of the extremities. The patient's convalescence was rapid, and in three months he had recovered all his vigour.

We agree with M. Forget in thinking this case quite an exceptional one; and although the severity of the symptoms, and the strength of the patient's constitution, may have justified these evacuations, yet as the author ascribes the fortunate termination of the disease to the use of mercury, we should be reluctant, even in similar circumstances, to push bleeding so far.—*Gaz. des Hop.* Feb. 19, 1839.

[We entirely agree with the *Gaz. des Hopitaux* in these observations on the last case, and would apply them to those in which tartar emetic and kermes were pushed so boldly. The patients had a happy escape of it, and that was all. Even the bark of the pomegranate root is said to have produced bad symptoms in large doses. Magendie, however, orders a decoction, made with two ounces of the bark, to be taken in a day (*Formulaire*, 8e edit. p. 381), which is about eight times the ordinary dose. He says that the bark is often mixed with that of box and other plants. The experiments with the ioduret of starch are curious; for though iodine is temporarily decomposed by starch, it is still carried into the blood, as appears from Dr. Buchanan's account (MED. GAZ. vol. xviii, p. 515), as well as M. Forget's case. By giving iodine, in this form, Dr. Buchanan thinks that its irritant or corrosive action is avoided, while it produces the same alterative effects, but with greater energy, from the augmented quantity. On the whole, we believe that bold practice does harm ten times for once that it benefits; but in a tentative art like ours, even the rashest experiments should be registered —for warning, if not for example.—*Translator.*]—Ibid.

THREE CASES OF ABORTION,

WITH SYMPTOMS OF POISONING, PRODUCED BY THE USE OF RUE.

By M. Th. Helie.

CASE I.—A young girl, of very short stature, but of robust constitution, who had a very difficult labour at the age of sixteen, brought on a miscarriage in the third or fourth month of pregnancy, in the following manner, as she confessed :— She sliced three fresh roots of rue, as big as her finger, and boiled them in a pound and a half of water down to three cupfulls, which she took in the evening at a draught. She was immediately seized with a dreadful pain in her stomach, which was soon followed by so great and general a disorder that she thought she was going to die; she saw every thing through a cloud, tottered, and felt giddy, and, as it were, intoxicated. Soon afterwards there were violent and continual efforts to vomit, but she only brought up a little blood. This state lasted the whole night. On the following day the symptoms diminished, and at the same time she began to experience colic, which was slight at first and more severe afterwards, the fits being separated by long intervals. Towards the evening of the second day they became violent, and followed one another in quick succession. There was now a small discharge of blood, then large clots were thrown off, and abortion took place, with ease in a few minutes, forty-eight hours after the decoction of rue had been swallowed, the girl not having been confined to her bed. The symptoms caused by the rue went off in a few days.

CASE II.—Maria ——, aged 25, a servant in town, had been in the country with a farmer for five days, to get well of an indisposition with which, she said, she had been recently attacked. During the first two days she went out, and

had a good appetite. On the third day she was suddenly seized with continual vomiting, which was difficult and painful. There was considerable fever and thirst, and she drank a large quantity of service cider* and wine-and-water, which she immediately vomited up. The vomiting had now lasted two days, accompanied by great weakness, twisting movements of the limbs and trunk, rotatory movements of the head, and delirium, or rather reverie, when M. Hélie saw the patient, on the 5th December, 1835. She was then in a sleepy state, from which she was easily roused; she answered questions well, but with slowness and some difficulty; the eyes were injected, the face somewhat coloured, and without expression: one might have said that she was drunk. Her sight was dim, the pupil contracted, some fever, with a large and soft pulse, and but little heat of skin. The urine had been suppressed since the vomiting had begun, and there were no alvine evacuations. The tongue was somewhat red just at the edges; the epigastrium was slightly painful. On feeling the abdomen, Dr. Hélie perceived that the patient was about seven months pregnant. The pertinacity of the girl in denying her pregnancy, and this sudden attack of vomiting, accompanied by unusual symptoms, led Dr. Hélie to suspect the employment of some drug to procure abortion; but his inquiries were for the time fruitless. There was nothing to announce the beginning of labour; the abdomen was quite yielding, and there was no discharge. On the other hand, her general plumpness and good complexion forbade the supposition that there was some recent disease. He therefore confined himself to prohibiting the hurtful drinks which the patient had been using for the last two days, and to prescribing a decoction of barley, with low diet, &c.

The vomiting was soon allayed, but all the other symptoms continued. On the morning of the 6th she seemed to suffer still more. At eleven o'clock, her face, her general state, and all the symptoms, were the same as on the previous day, but of diminished intensity. On raising the bed clothes, M. Hélie was struck with the characteristic odour of parturition; and between her thighs there were two children, still attached to the placenta, which had also been thrown off. They seemed to have reached six and a half or seven months of fœtal existence, but one was much larger than the other. They were both dead, but there was nothing to show that they had lived after their birth, nor was there any trace of external violence. There was a considerable quantity of blood and water in the bed; the uterus was well contracted. The pains, according to the girl's account, had begun the day before, and delivery had taken place an hour preceding this visit; and though it had been very painful at the moment, several persons present in the room had not the least suspicion of it. This day and the next produced but little change in the symptoms. There was still a state of somnolence and stupor, reverie, movements and twisting of the limbs, and frequent moans; stools and urine were passed, and the lochia flowed. She took roast meat in wine, according to country usage.

On the evening of the 8th there was swelling of the breasts, with fever, delirium, and convulsive movements of the limbs, which were both violent and continual: until this period Maria had not been very ill. In consequence of this exacerbation she fell into a state of extreme debility; the vomiting returned, the matter brought up consisting of green bile, and of food and drink, which were thrown up as soon as swallowed.

On the 9th, the symptoms increased, and there was distension of the abdomen. On the morning of the 10th, there was extreme weakness, prostration, somnolence, stupor, an intoxicated expression of countenance, and frequent moaning, with the articulation of a few monosyllables; there was also reverie, with subdelirium, and there had been for the last two days enormous swelling of the tongue which was red, but covered with a thick whitish coat. The pupil was constantly contracted, the eyes dull, the vision confused, the pulse feeble, soft, very small, and beating only thirty times in the minute, but regular; the temperature of the skin was below the healthy standard. The arms were affected with a twisting motion, and the head rolled to the right and left. The epigas-

* A drink is made in some parts of France from the fruit of the service tree.—*Translator's Note.*

trium was tender on pressure, but the rest of the abdomen was supple and not painful. The uterus had returned to its natural situation. There were continual bilious vomitings; the patient refused to eat or drink, and had grown sensibly thinner; the lochia were suppressed. These symptoms, unaccompanied by peritonitis, strengthened Dr. Hélie's belief that abortion had been excited by some narcotico-acrid substance. In fact, he learned that Maria had taken a decoction of rue leaves, without being able to ascertain in what dose or how many days she had employed it.

On the two following days, the 11th and 12th, the state of the patient was nearly the same. Two large blisters had been applied to the thighs, and cataplasms to the epigastrium; barley-water had been prescribed for drink; and, on account of her extreme weakness, a few spoonfuls of light broth, which at first vomited, but afterwards retained: two blisters were then applied to the legs, and cold sugar and water was given for drink.

There was afterwards some mitigation of the symptoms.

On the 13th there was a remarkable change: the symptoms of poisoning gradually went off, and were changed into those of typhus fever, the disease not becoming less serious.

On the following days, a considerable improvement took place; the tongue returned to its natural state; the salivation stopped; the convulsions of the limbs ceased; the understanding seemed less obtuse; the pulse remained equally weak and slow, but the skin was no longer cold. There was an attack of fever every evening, and vomiting when the paroxysm came on, but at no other time. The urine continued to pass involuntarily, but no longer accumulated in the bladder. The lochia had returned. She was ordered to take milk as her sole aliment, and gum-water with milk. The improvement continued; the typhoid state went off in a few days; and the evening febrile attacks did not return. The abdomen yielded to pressure, and was not tender; but there was obstinate constipation for some days, which was overcome by two ounces of manna. The urine now ceased to flow involuntarily; the face regained its natural expression, and the understanding its powers. The slowness of the pulse was one of the symptoms which lasted the longest.

On the 30th of December Maria returned to service, and some days afterwards was able to work again.

Case III.—A young girl, being four or five months pregnant, and wishing to induce abortion, took for several days a large dose of the expressed juice of fresh rue leaves. She experienced symptoms quite resembling those of the preceding case, and was in great danger. When she was at the worst, among other symptoms were observed prostration, somnolence, excessive general debility, frequent fainting, extreme smallness, weakness, and slowness of the pulse, extraordinary coldness of the skin, and continual non-convulsive movements of the limbs, particularly the arms. As in the preceding case, there came on active inflammation, and considerable swelling of the tongue, with copious salivation. For several days abortion was seen to be coming on, but the fœtus was not expelled till towards the sixth day, dating from the beginning of the symptoms of poisoning. When abortion had taken place, all the symptoms grew milder, and no inflammation of the uterus followed. The symptoms of poisoning, however, lasted at least twelve days, and went off gradually. The girl recovered slowly.—*Annales d'Hygiène*, vol. xx.—*Ibid.*

MEDICAL EDUCATION.

A uniform, and a higher standard of medical attainments, as a test of the qualifications of candidates for a degree in medicine, is now becoming a question of very general interest among the profession in Great Britain and the United States. The antiquated usages of Oxford and Cambridge have ceased to command, any longer, confidence for the medical graduates at those seats of learning: and the multiplication and efficiency, in many places, of clinical schools,

show that a man, without being versed in the literature of his profession, may be a useful and successful practitioner. It is not the less clear, however, that the acquisition of medical knowledge, by a careful observation of medical facts and their methodical arrangement, and the inductions from them will bo greatly facilitated by a suitable preparatory training of the intellect. Not only will the facts of early acquisition be available, for future purposes of professional study, but the habit of attention and the exercise of the memory and judgment at an early age will singularly facilitate progress subsequently in a more extended field of scientific investigation and philosophical inquiry. Hence, whilst it is conceded, that mere learning, however varied and profound, in the arts and sciences and belles lettres, will not make a student acquainted with anatomy, physiology, pathology, therapeutics, and clinical medicine; it cannot, on the other hand, be denied, that a knowledge of the former branches of knowledge will greatly facilitate his acquisition of the latter, and aid him in the application of these, either for teaching medicine or for the cure of disease. Both time and trouble are saved by a judicious preparation for labour of any description, whether of body or of mind.

At this present time, the people in most parts of Europe are in a state of transition from the cherished dogmas of the schools and their antiquated philosophy and learning, to the plain practical precepts of worldly wisdom, and the empiricism which looks to present exigency, regardless of consequences and connexions. In the United States, we have for the most part a mere show of organization, after the European models, in our colleges, without the method, time, and endowments, by which those institutions in the old world are made subservient to the purposes of instruction and improvement. But this fiction, whilst it serves no salutary purpose amongst us, has this serious disadvantage, that it impedes the adoption and completion of a more modern and practical system—one adapted to the wants and genius of the people, and in conformity with republican institutions and usages. With two or three exceptions, our universities are mere colleges; our colleges, when organized, little better than grammar-schools. When in actual operation they are seldom competent to make accomplished, classical and belles lettres scholars, and they are utterly unfit to impart the requisite knowledge of the exact and natural sciences of political economy and mental philosophy. Charters for colleges are granted without stint at the instance of a few applicants aided by some interested politicians; but adequate endowments, matured organization, and the conditions for giving at the outset a high *status* to the new institution, are withheld by the State. They never were in the possession, and hardly entered into the plans of the individuals who are charged with the immediate government of the new institution. The occasion on which some difficulty may be expected in obtaining formal legislative permission to organize a new school of any kind, is when promises of a higher standard, of a more comprehensive system with varied and practical applications, are advanced by its originators and friends. Then, indeed, something like a spirit of investigation is displayed by legislators, who are prompted, it is not uncharitably supposed, by a jealous feeling on the part of existing institutions which may be overshadowed by the new one. Insignificance meets with few obstacles; and people seldom regard the pernicious effect of precedent, provided they are saved present trouble.

Few of our medical brethren, and few citizens of the state generally, are aware that a charter with very large powers was granted to some persons for the purpose of establishing a General Hospital at Erie, on which is ingrafted, by the same act of incorporation, a Medical School, a Medical Society, a Lunatic Asylum, an Asylum for the Deaf and Dumb, and one for the Blind, together with an Infirmary and a Dispensary, "with the usual powers incident to such institutions in this state." There was only one other grant which ought to have been made to the applicants on this occasion, viz., to establish an asylum for demented and thriftless legislators who thus abused their trust and sported with science and philanthropy.

In order to preserve the requisite connexion between the Medical School and the Hospital, and to curtail within safe limits the range for selection, it is sagely decreed that the professors of the college shall be the physicians and surgeons of the Hospital, Infirmary; and Asylums; and that shall be called the Faculty of Medicine, with the powers incident to such institutions. According to this plan, the hospital and asylums which, if ever established and in activity, ought to have men of the best talent and enlarged experience, to assume their medical direction, may be saddled with a set of book-read, speculative doctors, who have not seen ten patients in their lives, and who never thoroughly inquired into the state of one of these.

What, if any, progress has been made towards the erection of a hospital and asylums and the organization of a medical school at Erie, is as yet a mystery to the rest of the state.

Contrasted with this facility of giving a charter of such extensive and diversified powers to a few applicants, in a remote corner of the state, in which there are not in any way the means and appliances for giving it effect, is the tardiness, the marvellous caution, and the conscientious scruples of the legislature in acceding to the clearly expressed wishes of a great majority of the physicians of Philadelphia, for a Medical College to be established in this city—one, be it remembered, which did not enter the lists as opponent to existing institutions, which asked for only restricted powers, but which looks to raising a higher standard of medical attainments, and imparting greater efficiency and enlargement to the system of medical education. The application, backed by the signatures of nearly all the physicians of the city of any professional weight and accomplishment, out of the two medical schools now in existence, was sent up to Harrisburg in the session of 1836–'7. It was passed by the lower House, but lost in the Senate—again renewed, this last winter it has finally met with better success, and now waits the signature of the Governor.

In Great Britain, the requisites for obtaining a degree or a licence to practice medicine and surgery, are of late declared, by some of the respective institutions before which candidates come, to be more numerous and diversified than heretofore. We do not speak now of the medical colleges attached to universities, which graduate their own students; but of those institutions which give a title and empower to practice after an examination, without themselves professing to furnish the means for procuring the requisite knowledge. Of this kind are the three Colleges of Surgeons, of Physicians, and of Apothecaries, in London. No matter at what school the applicant for a license from the College of Surgeons, or a diploma from the College of Physicians may have attended lectures, or whether he have attended an association, or a number of sepa-

rate private lectures—no matter at what hospital he may have learned his clinic, provided he bring the testimonials of attendance for a suitable period, and give proofs of his knowledge of the various branches, at his examination, he is passed in due form and receives his authorization to practice. The rule in this respect, at least of the University of London, is the same: a Board of Examiners appointed by the senate of that institution, as we have on another occasion pointed out,* tests the qualifications of an applicant for the degrees of Bachelor, or of Doctor in Medicine. This Board is not the medical faculty of a College, but is a body elected expressly for the purpose of examination, and in the discharge of its duty it only requires evidence of capacity and attainments, without regard to the place where, or parties under whom, the student passed his time.

Just on such a footing is the Medical College of Philadelphia. This institution consists exclusively of medical men, and is based on a belief that they are the best judges, in the premises, of what is necessary for the advancement and honor of the profession, and the most competent to adopt and carry out the proper measures for a successful result. This opinion is becoming the prevalent one in Great Britain, and is manifested in the organization of the 'British Medical Association,' and others of a kindred nature in different parts of the island. In an "Address from the Glasgow Medical Association to the Practitioners of Medicine in Scotland," now before us, it is stated that the members composing it, "have united not to advance the interests of any great political party, but solely and exclusively to increase the respectability and status of the medical profession." Among the objects for which they strive, are: "THAT THE AFFAIRS OF THE PROFESSION, INCLUDING EDUCATION, GOVERNMENT, PUBLIC HYGIENE, REGULATION OF THE MEDICAL AND SURGICAL DEPARTMENT OF HOSPITALS, ASYLUMS, DISPENSARIES, &C., BE MANAGED ENTIRELY BY THE WHOLE BODY OF MEMBERS." Also, "That all regularly qualified practitioners be entitled to act and be recognized as teachers of medicine, and be all equally eligible to medical and surgical appointments in all hospitals, asylums, dispensaries, &c."

One great advantage of medical men having in their hands the entire system of medical education, would be an accordance in view and consequent action between him who first receives a youth in his office as a student of medicine, and those who subsequently test the qualifications of the latter for a degree and privilege to practice. The standard being with the general consent of the profession higher than heretofore, every member would see and feel it to be his duty to refuse to take into his office a youth who had not received a suitable preparatory education: still more, he would urge on the parents the necessity of giving their son such education, if they wished him to study medicine. There is a vicious circle just now which requires to be blotted out and a different one substituted. It is; that, as young men have not, in general, an adequate preliminary education for the study of medicine, the system of medical instruction cannot be as complete as it ought to be, and that any attempt in sequence to change, will be abortive: Whereas, in fact, if the parents and friends of the youth of our country are not startled or almost compelled into a better discharge of their duty by an alarm sounded from the Medical Faculties, they will go on for generations in the old road, because ignorant both that it is the wrong road and that it is known by others to be such.

* See p. 85-6, vol. 1, of this Journal.

If, *in limine*, we were to insist on one important condition for the improvement of the medical profession, and a higher standard for medical education, it would be a longer time of study. In every stage of education, whether at school or college, whether in the physician's office or in attendance on lectures and hospital clinic, there is excessive haste, an intense eagerness to advance, without regard to the road travelled, or the ability of the traveller. The evils, in this respect, although great in the United States, are not confined to them alone. Our English brethren also suffer, as will appear from the following paragraphs, which we find in the Medical Gazette of Feb. 9th, 1839:

"In days of yore,—say three centuries ago,—the degree of Doctor of Physic appears to have been a considerable distinction, and to have pointed out its fortunate possessor as one skilled not only in medicine, but in the liberal arts and sciences. The number of years which were required to elapse before the highest honours in medicine could be conferred, were of themselves a tolerable guarantee that they would not be given to an ignoramus; for it is difficult to believe that this precaution could be nullified in those simple ages, and that a man could pass twelve or fifteen years in the nominal study of his profession, and be sent forth quite ignorant of it, Anno Domini 1540. Without supposing, therefore, that every Doctor *Medicinæ* came up to the standard of a Linacre or a Caius, we may easily believe that our ancestors contemplated 'a grave and learned doctoure in physicke' with very different eyes from those with which we look upon the batches of unlettered lads hourly thrust forth from the degree-manufactories of every part of Europe.

"The truth is, that even if we were to adopt the flattering theory that the young men who are now-a-days introduced *per saltem* into a doctorship at one-and-twenty, were really qualified *docere medicinam*, their prodigious number would nevertheless lower their marketable value; just as after the discovery of the American mines an ounce of gold or silver would not buy the same quantity of commodities as before. But the case which is unfortunately more in point is that of a depreciation of the coinage; and as the French *livre*, or Italian *lira*, was originally a pound of silver, but has sunk to less than a seventieth of that quantity; so the once valuable name of Doctor has fallen, until in this country it popularly signifies any one willing to administer drugs.

"Indeed, when we see the multitudinous array of doctors annually created by certain seminaries, we are apt to think that, like the one-faculty people, they are trying to set the whole profession on a level, or to place every body at the top, just as the Irishman in the story wished to have an apple-pie made all of quinces."

The difference between past and present usage, in regard to the period of medical study, must seem to be the stranger, since at the present, more than at any former time, are the branches more numerous, the facts multiplied, and clinic extended; so that the most vigorous intellect cannot possibly grasp the sequence and connexion of the various subjects of study and observation in medicine, in the short period now allotted for the purpose.

INCREASE OF TEMPERANCE.

To physicians who have, generally, contributed so much to the progress of the temperance cause, and consequently to the prevention of disease in its various forms, the following statistical details cannot fail to be gratifying.

TEMPERANCE.

"The late report of the New York City Temperance Society states that the number of licensed liquor shops in that city in 1828, was three thousand one hundred and sixty-two; in 1838, with a much increased population, two thousand five hundred and seven.

"There were in the State of New York alone, in 1825, one thousand one hundred and twenty-nine distilleries; the number is now reduced to about two hundred. In 1837 there were in operation in the city of New York and vicinity, seventeen large grain distilleries; now there are but nine. In 1837, 32,680,000 gallons of first proof domestic spirits were inspected in this city; and in 1838, 18,049,000 gallons, being 14,633,000 gallons less in the last, than in the preceding year, or a falling off of more than 33 per cent.; and greater than double the decrease of any previous year.

"In the importation of distilled liquor into the port of New York the last year, there was also a decrease of 25 per cent. And it is worthy of notice, that according to the latest returns of the Secretary of the Treasury, in 1837, there was a decrease of 1,285,084 gallons of wine, as compared with the importations of 1836."

It would be a curious, and withal instructive document, if a table were given of the different kinds of wine, beginning with champagne, manufactured or made up in New York and other places in the United States, the amount of each, and the liquors and other articles used in their composition. Some of the worthies who smack their lips, and speak with such *gusto* of the pure juice of the grape, of the sparkling champagne, and the refreshing hock, would feel not a little astonished and annoyed to discover that they are drinking and praising a vile "homebrew" of incompatibles, more detrimental to health, if not to morals, than the spirits and water, from which, as members of temperance societies, they had properly resolved to abstain.

Mr. Delavan, the liberal supporter and active agent of the temperance cause, who is now in Europe, writes from Paris to the Secretary of the American Temperance Union, communicating some particulars respecting the use and effects of wine on the continent. Mr. Lutterworth, a distinguished philanthropist residing in Paris, in reply to some questions from Mr. Delavan, states, that the consumption of wine, within the barriers, amounts to about 932,402 hectoletres, and of ardent spirits 36,912.

"A hectoletre is equal to about 100 English quarts, and as I understand," says Mr. Delavan, "there are about 700,000 inhabitants within the barrier, *they* must consume yearly, over 130 English quarts of wine *each*, and between five and six quarts of ardent spirit—outside the barrier intoxicating drinks are consumed without duty and in oceans by the 200,000 inhabitants residing there, and by the population within the walls, who can be seen by tens of thousands on the sabbath day drinking. The quantity consumed this way does not come into the above estimate."

Mr. Greenough, the eminent sculptor, who has resided for many years in Italy, and who can hardly be considered a party or prejudiced man in this matter, writes to Mr. Delavan from Florence:—

"The abuse of wine here, is much greater than a hasty observer would suppose. The quantity drunk, by a very large class, is double that (of any species of liquid) considered wholesome for man. It produces most of the bad effects of ardent spirits, as misused in our country, and is perhaps, as being more gradual in its operation, more insidious. I have been assured, by competent judges, that a great portion of the violent inflammatory complaints, so prevalent here, have their origin and owe their development to this abuse of wine. The Ophthalmia, which is so cruel a scourge to the laboring classes, and which fills the streets of Florence with blind persons, is declared, by medical men, to be owing rather to the effect of the climate and light reflected from the buildings and pavement on heated and over-stimulated systems, than to the unaided action of any natural agents. Many of the more thinking and prudent Italians abstain from the use of wine. Several of the *most eminent* of the *medical men* are *noto-*

riously opposed to its *use*, and declare it a *poison*. When I assure you that one-fifth and sometimes one-fourth of the earnings of the laborers are expended in wine, and when I add to this, that every severe winter destroys hundreds of the aged, infants and females, for want of proper lodging and clothing, you may form some idea of its probable influence on their thrift and health. I ought in candor to mention that it is still served in the hospitals to such as are on *full allowance*. How far the destructive and poisonous influence of wine, as here used, is to be ascribed to the grape, and how far it is augmented and aggravated by poisonous adulteration it would be difficult to say, for though the pure juice of the grape can be furnished at about one cent the bottle, you who have studied the matter, know very well that the retailers choose to gain a fraction of profit, by the addition of water and drugs that will maintain the color, body, boquet, and intoxicating properties it originally possessed."

Both in its connexion with dietetics and as a proceeding of medical men, the following sketch is worthy of record and remembrance.

JUBILEE MEETING OF THE TEMPERANCE SOCIETY OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.

The meeting was opened with prayer by the Rev. Dr. Knox; after which the following resolutions were offered and ably supported by eloquent addresses.

Prof. N. J. Macneven, M.D. offered the following, which was seconded by Dr. Holton.

Resolved, That alcoholic stimulants, either as an auxiliary to labor, or as an antidote to bad water, originates in a vulgar prejudice, which has no foundation in rational philosophy, and is to be regarded as a fruitful source of much of the intemperance which affects our country.

Dr. Macneven stated, in a very clear and lucid manner, that alcohol does not prevent the deleterious consequences of bad water; the debilitating effects of alcoholic liquors on the system; and also showed that the greatest men that ever lived used water as their common and only drink—among whom he mentioned Franklin, who, when a journeyman printer in London, went by the name of the "Aquatic American." Voltaire and Fontanelle used coffee for their excitement; Newton the fumes of tobacco: Demosthenes and Haller draughts of cold water.

And this he himself had seen—Edmund Burke, in the midst of one of his great speeches, with a tumbler of hot water before him, for his stimulus.

The Dr. farther remarks:

"From my personal experience I can allege that great temperance and great labor are not only compatible but healthful. In my youth I performed long journies on foot. I walked over Switzerland, drank no alcoholic liquor, and never exceeded one light meal of animal food per day—and that in the evening."

The following resolution was then offered by Dr. W. P. Buel, and seconded by Wm. G. Wood:

Resolved, That the use of alcoholic liquors in the treatment of disease, either directly as remedial agents, or indirectly as vehicles for other remedies, is a measure dangerous in its tendencies, and only to be resorted to with great caution, and a due regard to its ulterior as well as its immediate consequences.

The meeting was then addressed by Thomas Cock, M.D., in an eloquent and forcible manner.

Dr. Cock did not speak to any set resolution, but made some general remarks upon the state of the Medical profession for the last thirty years, in relation to temperance; showing the contrast between the past and the present: how much more readily their example and precepts could now advance its cause, while individual danger was materially diminished. It was also shown that from the present mode of conducting the nursery, and the management of infants from birth, by rigidly withholding stimulating drinks from the mother as well as babe, immediate good effects ensued, and a better constitution would be the result. Thus, by temperance, human life may be rendered far more comfortable in all its

physical relations, its term prolonged, and the many diseases to which we are predisposed diminished.

After which the following resolution was offered by Dr. Wm. G. Eadie, and seconded by M. D. Potter.

Resolved, That it is the duty of every physician, in consequence of the many facilities offered him in the practice of his profession, to inculcate upon the heads of families, on every fitting occasion, the importance of Temperance.

The following letter from the Hon. Theodore Frelinghuysen was then read by the Secretary.

NEWARK, Feb. 25th, 1839.

Gentlemen—On my return from our Superior Court on Saturday evening, I found your kind invitation to attend your Temperance Jubilee on Tuesday next. I must return to the Court in the morning; and regret that I cannot meet with you on this most interesting occasion. My best wishes and sympathies are all with you. And when the desolations of intemperance are seen around us, and in the midst of us—crushing the hopes of parents and friends, and breaking the hearts of wives and mothers, it is matter of wonder and sadness that so many of our first minds, on all other subjects, should withhold their approbation from this. I rejoice, gentlemen, that your college of Physicians and Surgeons bears its testimony in favor of the great object of Temperance Associations—the deliverance of the land from a wasting scourge. May your voice be lifted up in warning and reproof, until God, in great mercy, shall turn away our fellow-men from the paths of this destroyer. Very respectfully, gentlemen,

Your obedient servant,

THEODORE FRELINGHUYSEN.

To John Conger, M.D. Wm. G. Eadie, M.D. D. P. Holton, M.D. D. J. McGowan, M. D. Potter, Esqrs. Committee.

The meeting was then closed with prayer, by the Rev. Dr. Knox, after some preliminary observations, by which he showed the great importance of this Society, not only from its immediate effect upon the community, by reason of its weight of medical testimony, but also in its ultimate effects, in diffusing Temperance principles among medical students, and sending them forth when authorized to practice their profession, missionaries in the cause of humanity, doubly armed, not only to cure but to prevent disease.

JOHM CONGER, M.D. President.
DAN'L. J. MCGOWAN, Secretary.

The following persons were subsequently elected for the ensuing year.

For President, Wm. G. Eadie, M.D. 1st Vice President, John Osborne. 2d Vice President, D. J. McGowan. Recording Secretary, D. P. Holton, M.D. Corresponding Secretary, Dr. J. Q. Stearns.

Executive Committee,—M. D. Potter, W. G. Wood, C. H. Stillman, C. V. Clarkson.

QUACK DOCTORS AND QUACK LAWYERS.

"A fellow-feeling makes us wond'rous kind."

THE records of the Criminal Courts of the city and county of Philadelphia have, within the year, borne testimony to the evil doings of certain notorious quacks, who had assumed the title of doctors—an assumption sanctioned by the tolerance of the crowd, and pretended to be shown to be valid by certain gentlemen of the bar—their counsel—on the trial for their misdeeds. Be it known, therefore, to the medical public in the United States that, fallible as its members are, and failing and faulty as some of them may be, no regular physician, no real doctor, either by education, attainments, and gentlemanly bearing, or by the possession of a diploma, was in any way implicated in that foul and unnatural proceeding, by which abortion was procured, and an unfortunate woman

destroyed. The miserable man, who was convicted of this crime, and who is now condemned to a term of imprisonment in expiation of his offence, though called in the newspapers doctor, was never in legal possession of the title, nor admitted as an associate with the profession or with any of its members. His self-installation, some eight years ago, was announced by his offering for sale a certain Thomsonian compound, and extolling its sanative powers.

At an equal distance from the professional circle, and repelled from it by the negative properties of ignorance, impudence, vulgarity, and hypocrisy, is an ex-breeches maker, the fitting associate of the above mentioned Thomsonian, whose vanity could induce him, not only to certify, but to swear, before a magistrate, that he had seen, in consultation with her first attendant and doctor for abortion, the unfortunate woman during her sickness, and had immediately detected peritoneal inflammation; whereas it was proved, and indeed he himself subsequently admitted, that he had *never seen her at all.*

There is nothing in the conduct of these two,—*par nobile fratrum*, revolting as it is to decency and humanity, which can excite surprise in those who know the loss of moral sense and of self respect, which a man who becomes a quack, necessarily brings on himself. His first attitude before the public is one of deception, and is maintained by a series of fraudulent inventions and of impostures. The degree and number of his crimes will afterwards depend on his physical courage and his notions of the vigilance and power of the law. His code of morals is not a whit better than that of a pirate, whose principle of action—love of plunder—is also dominant with the quack. Hence, if, become more daring by impunity for former misdeeds, he passes from administering medicinal compounds under false titles and with false pretences of their effects, to a recourse to instruments in secret, and in ignorance also of their use, he is still consistent in villany; nor ought that portion of the public which abetted and sanctioned him in the first kind of mal-practice be surprised at the second.

In this view of the question, we charge those persons in our community, whatever station in society, degree of intelligence, and religious merit, or pretensions they may happen to enjoy, who countenanced the unfortunate Chauncey in his course of quackery during the last eight years, with being accessary to, and instrumental in, bringing on the crisis of his fate, and leading him to the commission of that crime for which he is now undergoing a long and ignominious punishment. Think ye, sirs, that if you had chosen to apply the rules of common sense and common ethics to this man's early attempts at quackery, you would not at once have discouraged him from persevering in them, and thus have compelled him to fall back to his former respectable calling—that of keeping school?

We know not the latitude which is allowable to the legal (?) defenders of a man placed in the situation in which Chauncey was, or how far they may be permitted to make the worse appear the better reason; but we must protest, in the name of our medical brethren against the gratuitous slander indulged in by one of the criminal's counsel. This latter alleged, in extenuation of the perjury of his client, that it was common enough for physicians, out of regard to the feelings of the friends of the deceased, to give certificates of disease different from that of which the patient really died. Now, supposing this to be true instead of false, does it justify the implication that they are in the habit of swearing to a wrong certificate? In direct opposition to all the evi-

dence, or rather without the support of any adequate evidence, one of the counsel for the criminal contended that his client was a respectable physician, in large practice. And what was the main proof of this allegation adduced by the learned advocate? Why, no less than the fact of his client being prosecuted for a criminal offence of the darkest die! If, says this advocate, in his address to the jury, he, Chauncey, had not been a physician in large and successful practice, he would not be now in his present position. After such a display of logic on the part of the learned counsel, one ought not to marvel at his ethical expositions.

We would just remind some of our legal friends, who evince such an extraordinary eagerness to raise every ignoramus, steamer or other, who is accused of malpraxis, homicide, or murder, to the title and honour of a physician, that a quack doctor bears precisely the same relation to the medical profession, which a pirate does to the profession of the law, and a swindler to that of a conveyancer. A pirate has been called a 'sea-attorney'; but he is not on that account to be regarded as a regular lawyer, even though he discusses, according to his code, questions of life and property. Nor can a swindler, or a burglar, although engaged in the transfer of property, be fairly regarded in the light of regular and legal conveyancers.

The last self-entitled *Doctor* (Dyott,) who has just procured for himself a place in prison for a term of years, might as well be called an attorney and conveyancer, if the logic of certain advocates of accused quacks were to prevail. He has shown himself as much of a lawyer as a doctor; and to the full as learned and upright in the former as he has been skilful and conscientious in the latter capacity. His license to practise law is as clearly made out and as legal as his diploma for practising medicine, and, as equally distinguished in both professions, he has equal claims to all the honours of both.

In a *Catalogue of the Officers and Students of the Medical Department of the Cincinnati College for* 1838–'9, we find the names of the gentlemen (a hundred and twelve in number,) who attended the lectures in that Institution during the winter; and also of those (twenty-seven in number,) on whom the degree of Doctor of Medicine was conferred, at the commencement, held March 3d, 1839.

Journal of the Proceedings of the Medical Convention of Ohio. At its Third Session. Began and held in the City of Cleveland, on the 14th and 15th days of May, 1839. pp. 48. 8vo.

Thirty pages of this pamphlet are taken up with an address from the President of the last Convention, Dr. S. P. Hildreth, in which he describes, 1st. The *Topography and primitive aspect of the country on the Ohio River.* 2. *Climate, and its changes from the effects of cultivation.* 3. *Diseases of the Aborigines.* 4. *Diseases of the first white settlers, and early epidemics.* 5. *Treatment of diseases thirty years since.* 6. *Recent epidemics.* 7. *Diseases common to this climate, with the modifications which have taken place from changes in diet, fashions, &c.* 8. *Closing remarks, on the privations and pleasures of physicians.*

We may, when favoured with more room, recur to the interesting topics as set forth in Dr. Hildreth's lecture—as well as to the communication from Dr. Richards on the topography, climate, and diseases of the Valley of the Muskingum.

The proposal made by the Medical Society of the State of New York, to hold a National Convention, in Philadelphia, on the first Tuesday in May, 1840, was adopted by the Ohio Convention. Will not our Colleges and the Medical Society in Philadelphia take some steps in this matter?

Proceedings of the President and Fellows of the Connecticut Medical Society, in Convention, May, 1839, with a list of the Members of the Society.

Among the measures recommended in this Convention, were the establishment of an Institution for the Insane Poor, and statistical tables of deaths in the different counties of the State. A committee reported on the subject of Vaccination, and offered some useful suggestions on the occasion.

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STATISTICAL REPORT OF THE RICHMOND LUNATIC ASYLUM.

BY JOHN MOLLAN, M.D.
Physician Extraordinary to the Asylum.

The attention of the profession scarcely requires to be directed to insanity. Yet there are many points connected with it, which are understood imperfectly, and so much hinges on a sound acquaintance with its phenomena and management, that medical men cannot study them too closely.

The present report is far from uninteresting. Our brethren in Ireland are beginning to exhibit a degree of zeal and activity which bode the best results to science. The officers of charitable institutions are particularly zealous.

It appears that the Richmond Lunatic Asylum was completed in the year 1814. It was planned not simply for the safe-keeping of the insane, but with a view to their rational treatment and cure.

For many years after its opening, patients were admittad into the Richmond Asylum from all parts of Ireland; but since the year 1830, when the various District Asylums were completed, it has been appropriated to a certain district, which embraces the city and county of Dublin, the counties of Meath, Louth, and Wicklow, and the town of Drogheda. A residence of twelve month within the district is necessary to entitle a patient to be received, and none are admitted without a medical certificate of insanity, and an affidavit on the part of the nearest relative, that the individual is a pauper, by which is understood, not being possessed of sufficient means to pay for maintenance in a private asylum. A few persons have been occasionally admitted, who contributed small sums to the funds of the institution; but the number of such cases at one time in the house, has rarely amounted to eight; and it is right to state, that they are treated in every respect like the general class of patients.

Cases of a manifestly incurable character are not admissible, but this rule can never be strictly enforced. Persons subject to epilepsy are excluded by the same regulation, but they sometimes get admission from the existence of the disease being concealed.

The plan of the building admits the formation of five classes for each sex, and a separate airing-ground is appropriated to each division. An important addition has lately been made of a large piece of ground, and including the gardens originally attached, there are now nearly twenty English acres belonging to the asylum.

The house was planned originally for the reception of 236 patients, but by alterations subsequently made, 288 can now be admitted; and yet, owing to the accumulation of incurable cases during a series of years, the accommodation is found to be inadequate to meet the wants of the district, and the Asylum labours under the disadvantage of not being at all times able to receive patients immediately on their being attacked, a circumstance which has an important effect on the result of treatment. But this defect is likely to be soon removed. Government having sanctioned the addition to the building of accommodation for 100 patients.

Dr. M.'s Report embraces a period of five years, commencing January, 1833, and ending December, 1837.

The population of the district, according to the census of 1831, amounted to

803,396, and each county being charged with the expense of the patients received from it, Dr. M. is enabled to compare the numbers with the population of each division respectively.

Admitted from	Population.	Number of Patients.	
		Males.	Females.
City of Dublin	204,155	167	128
(Within the ancient boundaries.)			
County of Dublin	176,012	68	80
County Meath	176,826	40	25
County Wicklow	121,557	25	23
County Louth	107,481	27	19
Town of Drogheda	17,365	4	2
	Total,	331	277

The large number of patients admitted from the city and county of Dublin, as compared with the other divisions, shows the much greater prevalence of the causes of insanity in cities and thickly populated neighbourhoods, than in the rural parts of the district. The town of Drogheda is rather an exception to this rule.

The medical certificate required with each patient contains a query as to the probable cause of the disease, where such could be assigned. From this source Dr. M. has arranged a table of causes.

	M.	F.		M.	F.
Intemperance and abuse of ardent spirits	74	12	Grief from death of relatives,	11	18
			After fever	10	8
Pecuniary losses and reverses of fortune	35	20	cholera	1	1
			influenza	1	0
External injuries from falls, wounds, &c.	18	4	scarlatina	0	1
			erysipelas	0	1
Destitution and want of employment	13	10	Apoplexy	2	0
			Dread of cholera	0	1
Domestic disagreements and bad treatment by relatives .	9	10	Abuse of mercury	10	2
			Fright	4	26
Love and disappointed affections	5	18	Hereditary predisposition .	8	5
			Close confinement and study,	7	0
Jealousy	10	10	Political excitement . . .	1	0
Seduction	0	1	Puerperal state	0	22
Religion	10	18	Violation of the person . .	0	3
Pride	1	1	Change of life consequent on		
Excessive fondness for music,	1	0	marriage	0	1

"This table shows a greater proportion of physical causes amongst men, and of moral causes amongst women, not exclusive of those peculiar to the latter sex. Besides the large number of cases attributed to intemperance, I have no doubt that the same cause operated remotely in many others, by leading to those circumstances from which the disease was supposed more immediately to proceed. Of the cases denominated religious, I believe but a very small number could fairly be attributed to religion as a cause; religious enthusiasm and religious despondency, though often mistaken for the causes, are much more frequently the consequences of insanity. The puerperal cases occurred either during pregnancy or very soon after delivery; in some few of them, other causes may have been combined with the puerperal state, such as fright and family disagreements. One woman who was attacked immediately after the birth of her first child, had been insane before marriage. In addition to those cases stated as hereditary, wherein this was the only cause assigned, nineteen others was noted, one or other of whose parents had been insane; and in forty-four more, insanity had shown itself in collateral blood relations. Amongst the cases for which no satisfactory cause was assigned in their certificates were two young females,

aged sixteen years, in whom the catamenia first appeared after being admitted into the asylum, and they speedily recovered on the establishment of this discharge. One was readmitted at the end of eight months, and the other after an interval of more than three years, both being affected with suspension of the catamenia. Suitable means being employed for the restoration of this evacuation, every symptom of insanity soon disappeared. In many other cases, irregularities of the menstrual function existed; in some, perhaps, the consequences, in others, very probably, the cause of their insanity; but in none was the connexion of the two affections so strikingly exhibited as in the two first mentioned."

Dr. Mollan earnestly and properly presses on those gentlemen who sign certificates of insanity, the necessity for accuracy in filling up answers to the queries they contain. Those answers are to form the basis for generalizations. How requisite their truth must be.

The occupation or condition in life of each patient is shown in the table following.

MALES.		FEMALES.	
Clergymen	3	Governesses	3
Apothecaries	2	Schoolmistresses	3
Attorneys	1	Shopkeepers and small traders	22
Traders and shopkeepers	23	Dressmakers and other female trades	45
Schoolmasters	5	Domestic servants	69
Mercantile and law clerks	27	Washerwomen	5
Artisans and tradesmen	132	Wives or daughters of tradesmen	53
Servants	32	Do. of professional men	5
Farmers	11	Do. of farmers	11
Soldiers and pensioners	9	Do. of labourers	41
Sailors	9	Do. of clerks or stewards	9
Police and revenue officers	6	Mendicant	1
Labourers	60	Midwife	1
Mendicant	1	Prostitutes	3
Unknown	10	Unknown	5

The class of labourers, the lowest, most numerous, and most likely to furnish tenants to a pauper asylum, only gives a fourth of the cases. Insanity prevails more in the middle and upper, than in the lower classes.

"In my inquiries respecting the condition in life of the females, I was surprized to find so small a number of prostitutes, as the contrary might be expected, on considering the excesses to which they are addicted, and the moral and physical evils to which they are exposed. Only three have been admitted within the last five years; and I learn that the average number in former periods was not greater. It is right to anticipate an objection that may be made, by stating, that women of this class, when proper subjects for the asylum, find as ready admission as any others. I should not have alluded to this circumstance, but that it is at variance with reports of lunatic asylums elsewhere, particularly in Paris. It has been stated by Esquirol, that at the Salpêtrière, the great hospital for insane females, one-twentieth of the whole number had been prostitutes. And Parent Duchatelet, in his extraordinary work on prostitution in the city of Paris, states that 105 cases of insanity had occurred amongst prostitutes in the course of five years. Why women of this description in Dublin should be more exempt, I can assign no satisfactory reason. The peculiar manners and habits of the same class in the French capital, as described by Parent Duchatelet, will probably account, in some degree, for their greater liability."

Of the men, 126 were married, twelve were widowers, and 134 were unmarried.

Ninety-eight of the females were married, twenty were widows, and 115 were unmarried. The state of the remainder was not ascertained.

"An account being kept of the religion of the patients; of the 608 under consideration, 146 were Protestants, and 462 Roman Catholics, being in the proportion of one of the former in every $4\frac{1}{6}$; which is greater than that of the respective

numbers in the population at large, wherein, according to the census, Protestants constitute one in every 5¼. But as all classes are included in this calculation, a fairer comparison would be of the patients in the asylum with the admissions into a general hospital indiscriminately open to the lower classes. I have, accordingly, procured returns from two of the hospitals connected with the House of Industry, of the patients admitted in one year, and I find the Protestants to have been one in every seven. I am, therefore, warranted in saying, that relatively to the respective numbers in the population, there are more insane Protestants than Catholics. This difference I conceive to have very little connexion with religious belief, but is mainly, if not entirely attributable to the fact, that the great disparity in the numbers of Protestants and Catholics in this country exists in the lowest classes of society, and that in ascending the scale, the numbers approximate; and as it has already been stated, insanity is least prevalent in the lowest classes. It is not meant by these observations altogether to exclude religion as a cause of insanity; and perhaps cases of a purely religious origin may be more common amongst Protestants than Catholics; they are, however, only of rare occurrence."

TABLE OF AGES.

	Under 20 years.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	Above 70.
Males . .	17	85	106	75	29	16	3
Females .	20	85	86	42	28	10	6
Total . .	37	170	192	117	57	26	9

487 were admitted in the first attack, seventy-eight in the second, twenty-four in the third, fourteen in the fourth, four in the fifth, and one in the sixth attack of insanity.

The duration of the disease before admission is shown in the next table.

	ADMITTED IN THE MONTH.										IN THE YEAR.				
	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th to 12th	2d	3d	4th	5th	6th
Males .	78	69	33	30	20	10	17	5	7	9	17	15	12	3	6
Females	50	47	32	28	12	7	13	5	4	12	24	17	9	6	11
Total .	128	116	65	58	32	17	30	10	11	21	41	32	21	9	17

It has sometimes occurred that a delay in the admission arose from the want of sufficient accommodation in the asylum; much more frequently, however, from neglect of timely application. The friends of patients often dislike their being placed in an asylum so long as they are manageable at home, and in consequence, that period of the disease is too frequently allowed to pass over when proper medical treatment is most likely to be efficacious.

The results of treatment are next adverted to.

DISMISSED.

	Recovered.	Relieved.	Unrelieved.	Died.	Remaining.
Males . . .	150	29	10	57	85
Females . .	116	44	3	31	83
Total . . .	266	73	13	88	168

From the recoveries, forty-two must be deducted on account of re-admissions in consequence of relapses; thus reducing the number of permanent recoveries to 224, so far as the event is known. But on the other hand, credit is to be taken for at least one-half of those discharged as relieved, who are known ultimately to have recovered; the removal of a patient from the asylum who is tranquil and easily managed, having often a salutary effect. Again, of those remaining, a very considerable number are likely to recover, which circumstance must be considered in forming any calculation of the curability of the disease.

Dr. Mollan adverts to the pathology of insanity, but so cursorily that we do

not think it necessary to notice this part of his report. We may simply observe, that many more males died from head-affections than females, a circumstance corroborative of the greater prevalence of the physical cause of insanity in the former.

The tendency of insanity to shorten life is a subject of importance, were it only in reference to life-assurance. Dr. Mollan subjoins the ages at which death occurred, as a contribution to the stock of data.

DIED,

Between 20 and 25 years, 3; 25 and 30, 9; 30 and 35, 11; 35 and 40, 14; 40 and 45, 10; 45 and 50, 9; 50 and 55, 7; 55 and 60, 7; 60 and 65, 9; 65 and 70, 3; 70 and 75, 5; 85, 1.

In our last notice of the work of Esquirol, we gave at full length the results of his observations on the value of laborious employment in the treatment of insanity. The following observations so strongly confirm the opinions and statements of that distinguished physician, that we give them at full length. The subject is one of the first importance.

"The advantages of laborious employment in the treatment of insanity have long been known, but its systematic adoption in public asylums is of recent date. I have already mentioned the extent of ground attached to the asylum; the part of this lately acquired, is now being converted into a market garden for the growth of vegetables for sale. An average number of sixty men are constantly employed in the cultivation of the grounds; and although entrusted with the use of spades, shovels, and other implements, no serious accidents have ever occurred. They are of course at all times under proper superintendance. About fifteen men find employment in various trades, as weavers, tailors, shoemakers, and carpenters. A few are occasionally engaged in breaking stones, and making mats, others in the performance of various domestic offices in the house. The female occupations consist of spinning, knitting, and the various branches of needle-work, and they assist in washing, and in all the offices of house-maids. All the clothing for both males and females is made up by the patients, with the exception of hats and shoes. During the last year, 2088 yards of linen and calico were woven in the establishment, the yarn for the linen having been spun by the females, and 524 pairs of stockings were made by them. Small rewards are generally given for the articles manufactured, which here as elsewhere operate powerfully as a stimulus to exertion. Of the advantages of this system of employment, I can speak in very decided terms; persons who, when unemployed, are noisy, violent in their demeanor, quarrelsome, and discontented, very generally become, under the influence of suitable occupation, tranquil, orderly, and easily managed; and to its salutary effects I mainly attribute the recovery of numerous cases, some of which were at first most unpromising. Difficulties will no doubt occur in its individual application, requiring perseverance and address, and of course, it is not suitable to every case, nor to every stage of the disease; but I can confidently say, that at least eight out of every ten lunatics will be found in a fit state for some useful pursuit; and it is often a subject of regret that our means of employment are inadequate. The advantages, in an economical point of view, of employing the patients in a pauper establishment, are so obvious as to require no comment.

I shall give a brief sketch of a few cases in illustration of these observations. A farmer about twenty-seven years of age was admitted into the asylum, after having been nearly four years in a state of dementia, in consequence, as was reported, of the improper use of mercury. He was listless and tacitnrn, and would only reply to questions about himself, by telling his name aad place of abode; his general health was unimpaired, and his appetite was good, but before commencing his meals he always required the assurance of some of the attendants that the food was good, and proper for him to eat. At first, he refused to engage in any occupation, but deing otherwise amiable, and showing no vicious propensity, a wheel-barrow was placed before him, and a man at either side took him each by a hand, and fixing them on the handles of the barrow, he was gently urged to the use of it; finding this plan persevered in, he soon consented to work

by himself; and afterwards taking to the use of the spade he proved himself an excellent workman. In a short time an improvement was apparent in his mental state, he became gradually more intelligent and communicative; his recovery proceeded without interruption, and he was discharged quite well after a residence of eleven months in the asylum.—A tailor, aged thirty-six years, was admitted in a state of melancholy of six months' duration; he was remarkably timid and reserved, and when questioned about himself he seemed disposed to give the required information, but his sentences were always unfinished from failure of memory, and want of words to express himself; his general health was impaired, and his appetite poor. After having been for some time under medical treatment, it was determined to try if he could be induced to work at his business, another tailor being constantly employed in the same division with him. Some difficulty occurred in persuading him to make the effort; but by encouraging language, and holding out the hope to him that he should be enlarged as soon as he showed that he was able to resume his trade, he was led to begin. At first his progress was slow, and frequently interrupted by fits of abstraction: but he gradually became more collected, and capable of longer continued application, and by steady perseverance in this course he recovered perfectly, and was discharged nine months after his admission.—A man, aged twenty-eight, who had served for some years in the East India Company's Artillery, was invalided in the island of St. Helena, and discharged as unfit for service in consequence of insanity, which had commenced with delirium tremens. He was admitted into the asylum about twelve months after being first attacked, when he was incapable of giving any correct account of himself; he was melancholic, and in general silent; when he did speak, his conversation was an incoherent jumble of the recollection of past events; his general health was a good deal impaired. For nearly three months after his admission there was very little change in his situation, he then began to show more intelligence, and to take mere notice of what was passing around him. It was discovered that he had been accustomed to the care of horses, and was fond of them; advantage was taken of this circumstance, and he was employed about the manager's horse, which in a short time was entrusted entirely to his care. From this period he steadily improved, and his recovery was complete in twelve months from the time of his admission. After being discharged as a patient, this man was employed as a keeper in the asylum; the duties of which situation he has now performed in a very satisfactory manner for the last two years. I may here mention, that one of the best nurses at present in the establishment is a woman who first entered it as a patient many years ago, and was then in a state of violent excitement.

The example of others employed around them greatly assist in overcoming the disinclination to every kind of exertion which many patients evince; and although the results of employment will not be always as satisfactory as in the examples I have adduced, still in every case more or less advantage will be derived from it. The general health is promoted, discipline is maintained, and active exertion in the open air is found more advantageous in producing quiet sleep than opiates. Many of our most industrious patients are persons whose cases are likely to prove incurable, but who are made as happy as their several states admit of; some, by their labours, are fully requiting, others materially lessening, the expense of their maintenance to the public."—*Med. Chir. Rev.*

ON THE FIBRES OF THE SPINAL MARROW AND SYMPATHETIC NERVE IN THE RANA ESCULENTA.

BY DR. A. W. VOLKMAAN.
Professor of Physiology in Dorpat.

[This paper forms an interesting addition to the treatises which are becoming daily more numerous, on the structure and arrangement of the primitive elements of the nervous system. Its author was led to an investigation of these organs through his inquiries into the phenomena of reflex-motory functions. These phe-

nomena prove that the spinal cord is something more than the aggregate of the nerves proceeding from it—that it possesses attributes somewhat allied to the "organ of the soul," and, consequently, would lead us to expect that its structure is more nearly allied to the brain than to the nerves. And this is corroborated by observation. The author is of opinion that as yet we cannot presume to decide upon the subject of structure, even, although the best authorites on this point differ less in their descriptions than in the conclusions they have drawn from their observations. We give here the principal results of the professor's researches; leaving it, and, indeed, recommending it, to those who feel sufficient interest in the subject to peruse the original.]

The primitive fibres of the medullary substance appear sometimes cylindrical and some times varicose: both forms occasionally presenting themselves in the same preparation. It is probable that in the undisturbed state only one of these characters prevails: and, as it is less probable that an uniform cylinder would be produced out of a varicose fibre than *vice-versâ* it may be assumed that the cylinder is the natural condition, and that it becomes converted into the irregular varicose fibre by means of the disturbance consequent upon preparation. The most recent investigations of Krause, Treviranus, E. H. Weber, and myself, have tended to confirm the opinion that the cylindrical form is not only the most prevalent (to say the least) in the nervous system, but that in some parts it is the universal character of its fibres. The following are the principal grounds which lead to this conviction.

1. E. H. Weber and myself found that in the valvula cerebelli of small animals the fibres are uniformly cylindrical; a circumstance of great importance, since this is the only part of the nervous system thin enough to allow the structure to be investigated without previous preparation.

2. All observations showing the cylindrical structure to prevail in cases where water has been employed in the preparation are inadmissible, since water possesses the property of converting the cylindrical into the varicose form. If this be tried (as Krause has shown) it will be found that the fibres become at the same time evidently shortened.

3. Whenever mechanical force is applied, the same objection may be made; and it is not requisite that the nervous matter should have been formally prepared to show this, for the mere tearing or separating a portion of this substance is sufficient to give rise to this change.

4. It is found that the greater the care with which these disturbing agents are avoided, the fewer will be the number of the varicose fibres; sometimes, indeed, they are entirely absent. The best way to examine nervous substances is to make use of albumen, serum, or saliva, as the moistening medium; and, in order to get a portion sufficiently fine for viewing under the microscope, rely more upon the gentle separation of larger pieces, by means of fine needles, than endeavour to separate a portion sufficiently delicate at once by using scissors. In this manner single fibres frequently become visible, and are generally of a cylindrical form.

5. It not unfrequently happens, however, that even where these objectionable forces are applied, some of the fibres—and often to a considerable extent—present the cylindrical character. This circumstance proves that, however true it may be that the contact of water and the use of mechanical force generally produce an alteration in form, yet it is not so universal as the opponents of Ehrenberg mantain.

These facts lead me to the conclusions—

1. That the fibres of the brain and spinal marrow have, for the most part, a cylindrical form.

2. That the varicose fibres are, in the majority of instances, the result of preparation.

3. But that the existence of varicose fibres in some parts cannot be absolutely denied. The fibres of the spinal marrow in the frog, as, probably, in all other vertebrated animals, take a tolerably parallel course in the longitudinal direction, without the least indication of transverse fibres or anastomoses, which the phenomena of reflex functions would almost have led us to expect. As circumstances establishing the analogy between the structure of the brain and spinal marrow to

be greater than that between the latter and the nerves—may be adduced: 1. The extreme fineness of the primitive fibres, the average of which may be stated at 0-00015 inch, whilst the measurement of the primitive filaments of the ischiatic nerve lies between 0-00045 and 0-00070 inch. 2. The frequent appearance of the varicose form, which, although it may be attributable to the causes named, becomes, nevertheless, in so far, characteristic of these portions of the nervous system. And 3. The easy disruption in a transverse direction, taking place without the application of more force than is necessary to separate the filaments one from the other. The reverse of this is the case in the nerves themselves; a circumstance which may, perhaps, with justice, be attributed to the investing neurilema of the nervous fibres.

There are also globules within the substance of the nervous mass; these are considered by Ehrenberg to be merely the remains of fibres; but I am of opinion that they form an essential part of the medullary substance; for they are frequently found to exceed by far the dimensions of the filaments, nor are they angular or irregular, as we should in that case expect them to be; besides which, their position amidst the fibres, and their being devoid of such irregular portions of filament as must sometimes be left attached to them, provided they were broken down fibres, seem to indicate that they have a separate existence.

The spinal cord of the frog exceeds by far the combined volume of the nerves arising from it. The author gives a careful measurement of each nerve at its origin, and, doubting the total for both sides of the body, gives the proportional diameter of the nerves to the spinal cord as 0·0817 inch to 0-1100 inch. This fact and the circumstance above named, that the fibres of the spinal cord are much finer than those of the nerves themselves, seem likewise to justify the inference that the filaments of the former are (say $\frac{2}{3}$) more numerous than those of the latter. This question assumes considerable interest when we reflect upon the probable functions of these supernumerary filaments, particularly in making comparative reference to the brain, which, without doubt, possesses a vast preponderance of fibres over and above such as seem to be continued in the substance of the nerves. This consideration, too, appears conclusive in regard to the opinion that the spinal cord deserves to oe considered as a central organ. If those filaments which Ehrenberg first observed (and I have frequently confirmed his statement) to pass from the spinal cord along the nerves given off from it, are subservient to motion and sensation, as we may reasonable suppose, what is the function of those which remain? The superfluous fibres of the brain may be supposed to be necessary to the formation of the organs of the mind; but to what are those of the spinal cord subservient? There is a remarkable circumstance connected with the spinal marrow of the frog. Posterior to the point at which the tenth spinal nerve is given off it retains half its original size, extending through the remaining vertebræ and the anterior third of the long caudal bone, and in this course gives rise to three nervous filaments, which are scarcely visible to the naked eye.

Here then is a portion of the cord which evidently belongs to the central organ, and does not stand in immediate relation to the peripheral distribution of its nerves. It would be desirable to ascertain whether the fibres of the spinal cord —as well those which are continued into its nerves as those peculiar to it as a nervous centre—are continuous with those of the cerebrum. It is satisfactorily proved that many motory functions, as for instance, the act of swallowing, depend on the spinal cord, and not on the brain; and it is, therefore, in some measure probable that such fibres take their origin in the former and not in the sensorium.

The results of the author's investigation of the mode of origin of the spinal nerves are interesting, but require corroboration. He says "The ganglia, through which the union of both nerves (the sensitive and motor) is effected, do not belong so entirely to the sensitive root as in the mammalia. In the fourth spinal nerve, the ganglion appears to be equally divided between the two roots. In the fifth, although the motor branch passes by the side of the ganglion, still examination with the microscope convinces me that some of its filaments pass through it. The tenth nerve has only one root, which is furnished with a ganglion at its point of exit from the canal. The sympathetic nerve unites with the

anterior branches of all the spinal nerves excepting the first, which performs the function of the hypoglossus. It forms a double ganglial cord, closely approximating in the cervical region, and diverging towards its abdominal end, so as at last to be connected with the spinal nerves by long and slender filaments."

The author here gives a minute account of the precise mode of union between the individual ganglia and the spinal nerves; of this, however, we must be content to give a summary.

1. The sympathetic nerve consists of two kinds of filaments. One set of these belongs peculiarly to it, and may be named sympathetic in the strictest sense; the other takes its origin in the spinal cord, and may be termed the medullary fibres of the sympathetic. It is universally found that those spinal nerves which unite with the sympathetic are much thicker towards their origin than in the contrary direction; therefore, since it is not at all probable that the central organs receive so large a number of sympathetic fibres, it remains to be assumed that they are the filaments which spring from the central organs, and serve to communicate the influence exercised by the brain and spinal marrow upon the organs of vegetative life.

2. The sympatheticus increases the dimensions of all the spinal nerves, except the first, in joining them in the direction of their peripheral extremity. The first nerve, corresponding to the hypoglossus, is distributed to the tongue, which organ likewise receives branches from the vagus nerve, and this contains a considerable proportion of sympathetic filaments.

3. It is probable, from the mode of union of the ganglia with the spinal nerves, that filaments from various parts of the latter pervade the ganglionic system throughout its whole extent.

4. The superior part of the spinal cord appears to have a greater share in supplying the medullary fibres of the ganglionic system than the lower. The superior connecting branches contain decidedly more of them than the inferior; and the same remark holds good with regard to the ganglia themselves. This circumstance is easily explained, when we consider that the heart, stomach, and lungs receive their nerves from this quarter; for no other organs depending principally on the sympatheticus, are placed in so close a connexion as these with the central organs.

The author has convinced himself, by means of the microscopical investigation of each individual point of union that the sympathetic nerve joins the anterior roots of the spinal nerves, and strengthens them in their peripheral direction. It is probable that the posterior roots also receive some filaments; it is, however, difficult to decide this point. The physiological importance of this fact led Dr. V. to extend his observations to the mammalia, and he had the satisfaction to find it confirmed in the rat and mole.

It only remains, now, to describe the ganglia; they all possess a bright yellow colour in the frog, and contain three elementary forms of tissue, viz. globules, filaments, and cellular tissue. This has reference to the ganglia of the spinal nerves, as well as to those of the sympatheticus. They are regularly formed, more round than oval, and only once was a globule observed that seemed to indicate a capsular arrangement with flocculent contents. Their diameter is from 0·00120 to 0·00184 inch.

These ganglia present, likewise, here and there, yellow patches, which appear to be colouring matter. Dr. V. has never been able to discover any organization in this, and is inclined, therefore, to consider it to be fluid. In some cases it appeared that the globules themselves contained the colouring matter, which appeared in the form of dots on their surface.

"The filaments in both sorts of ganglia possess the following characters in common: 1. They form bundles in their passage through the ganglia, which are easily torn in a longitudinal direction. They are not easily torn across, but can be pursued as single filaments through a considerable extent. These circumstances seem to indicate that they do not lose their neurilema. 2. I have never found varicose fibres in them, although I have so frequently investigated them. 3. Nor have I ever perceived anastomosis or subdivision of the primitive filaments. 4. If a ganglion be dissected with care, it will be often found that

fasciculi of these filaments traverse it, entering from a nervous branch on the one side, and passing out on the other into a different one. In cases where a ganglion stands connected with many branches, an individual branch may be found entering on one side, and, upon leaving it, distributing itself to some or all of those remaining. The filaments never terminate in the globules, nor do they pass through but between them; neither have I ever found that the globules are surrounded or inclosed by them; they rather appear to lie between the globules in distinct fasiculi; and, indeed, the proportion of globules is sometimes very inconsiderable, whilst here and there considerable accumulations of globules may be observed, without any filaments running between them. From these irregularities it is questionable whether the globules really consist of nervous matter. These globules are likewise met with in the sympathetic nerve.—*Müller's Archiv. 3 Heft.* 1838.—*Brit. & For. Med. Rev.*

From the Southern Literary Messenger.

CATALEPSY.*

"There are more things in Heaven and earth, Horatio,
Than are dreamt of in your philosophy."

To the Editor of the Southern Literary Messenger:

Sir,—In reading, in a late number of your periodical, the interesting tale of "The Transfigured," I was reminded of a case which occurred in my practice some years since. In looking over some old papers, I have this day found my notes of the case, which I will attempt to write out; and though better suited to a medical journal than yours, I will send them to you, to dispose of as you think proper. I know that many of the facts will be disbelieved, but I pledge myself for their correctness, and the most improbable of them can be attested by a dozen living witnesses.

On the 12th of April, 1828, I was sent for in great haste, to visit Miss ****, about fourteen or fifteen years of age, whom I had seen the day before, in the town of my residence, quite well and very gay, having been at a party on the preceding night, as she probably had been on several successive nights before that. I found her in a state of entire insensibility, from which she could not be aroused by talking, shaking, or even pinching. The account which her intelligent parents gave of the attack was, that she arose in the morning apparently well, and while sitting in the window and employed in knitting, she became suddenly speechless and insensible.

Notwithstanding the use of active remedies, such as dividing the temporal artery, a cathartic, valerian, sinapisms, &c., she remained in this state for twenty-four hours. When she revived, she talked incessantly of the parties to which she had been, and of the company. I left her in this state of vivacity; but on the next night I was sent for, with the information that another paroxysm was upon her. I remained with her during the night, attentively watching the symptoms, and using such remedies as they indicated. I soon discovered that she was affected with catalepsy, a disease, which, though not of frequent occurrence, I had before seen.

In spite of medicine and consultations, the disease continued in various forms, the paroxysms returning at various intervals, till the middle of May. Arterioto-

* Some of our readers may suppose that this deeply interesting narrative is an ingenious fiction, contrived for their amusement; but we are happy to have it in our power to assure them, that its author is a gentleman of unimpeachable honour and veracity, and of high standing as a member of the medical profession. In a private letter received from him, he repeats the pledge contained in the narrative itself, that, if its statements are controverted, he is prepared to substantiate them by testimony of as high character as can be adduced in this country. Our readers, therefore, may fully rely upon the verity of the story, however curious and incomprehensible its details may appear to them. How little, indeed, after all the researches of philosophy, do we still know of the laws which regulate mind and its mysterious connection with matter.—[*Ed. So. Lit. Mess.*]

my, cupping, blistering the head and spine, tartar emetic ointment, and all the most active internal remedies were employed, sometimes with apparent advantage, and often without any beneficial result. A physician, who was present during one of the paroxysms, divided the temporal artery with a lancet that he had used in vaccinating. It was the belief of the family that she had been vaccinated; but now a large vaccine pustule formed on the temple, from which we augured beneficial results. But in this we were disappointed, for the paroxysms became longer, more frequent and more violent. I recollected that she had suffered very much and was delirious, about twelve months before, from a diseased tooth, which a neighbouring physician attempted to extract. I now proposed its extraction, which she resisted, and the family would not consent to coercion.

The form and duration of the paroxysms were constantly varying. Sometimes she would be taken with spasms and fall into a comatose state, which would continue from one to twelve hours. Sometimes her head would be drawn back upon the shoulders. I have often seen the body curved backwards, with the head and feet in contact, in the form of a hoop, in which state she would continue perfectly rigid and immoveable for more than an hour, without any appearance of respiration; yet arterial action continued. I have seen her, at other times, lie with her eyes open, and immoveably fixed upon the ceiling for several hours, with a countenance the most placid and serene, yet luminous, that I have ever beheld, and which many of her visitors pronounced unearthy and angelic; during all this time there was no apparent respiration. When the paroxysms were off, she would converse in the most volatile, sprightly and amusing style. Before this attack she had been considered rather taciturn, when compared with her sprightly, voluble and talented sisters. From the commencement of the disease she talked incessantly during the intermission: at first her conversation ran upon light and common-place subjects, but as the disease advanced, her mind seemed to expand, and her conversation became not only interesting, but often eloquent and learned, on subjects which she had never been known to study. She had not even had access to books relating to them. Though I knew that I enjoyed the implicit confidence of this family, as a physician and friend, my mind was constantly kept in a state of tension: first, to find suitable remedies for the varying symptoms of the disease; next, to quiet the apprehensions of her anxious friends, whose intelligence and sagacity were not to be eluded by the ordinary and justifiable artifices, which the best and most pious physician sometimes resort to for the benefit of their patients; but, above all, by the extraordinary shrewdness and discernment of my patient. I had not only to chime in with her notions in regard to the medical treatment of the disease, but had to accommodate myself to her various opinions on a variety of subjects—amatory, social, religious and political,—and often to discuss them with her. A bare assent to her opinions would not satisfy—a reason, and a plausible one, must be given. Had I betrayed gross ignorance on some of her favorite subjects, I should have lost, forever, the chance of discharging my duty to her as a physician. She would, probably, never have suffered me to approach her sick chamber. These discussions sometimes took place in the presence of intelligent persons. She would sometimes overwhelm me with confusion by her extravagant compliments for some opinion advanced, or some gallant expression uttered; at another time, she would keep me smarting and writhing under her keen invective and biting satire—and, suddenly, she would almost draw tears from myself and all present by her eloquent appeals—which were as suddenly removed by her corruscations of wit. All this occurring in the midst of a great variety of other professional engagements, which forbade my remaining at home for an hour in the twenty-four, kept me in a state of nervous excitability, which has not, to this day, worn off.

In about a fortnight after her first attack, while resting myself, after a most fatiguing ride, I received a note, written in a strange, mysterious and incoherent style, signed "Roberta Bruce." Not knowing a person of that name, nor the subject alluded to, I supposed it was a quiz, and threw it away or burnt it. Afterwards I learned that a messenger had come for me to visit Mr. ——'s family; and it immediately occurred to me that the note was from my eccentric

patient. I sent a prescription, and my suspicions were soon confirmed. The messenger brought me a note, of which the following is a copy, verbatim:

"We were all much delighted at the reception of your kind, interesting, and affectionate letter. You spoke of the absence of Alecto, with joy inexpressible. I suppose you know to whom I allude. I might well say, as the sun softens and dissolves an icy rock upon the summit of the Appenines, so the impetuous passions of a married man are subdued by the voice of her he loves. Do write me how our interesting grass-hoppers are, as report says I am enamored of one or all of them; but it must be a *lapsus linguæ*. The heart, however, is in the right place. I expect this to be viewed with the eye of affection, not that of a critic. When is Henry Clay to deliver his address at our sublunary village? You must excuse inaccuracies and bad writing, as I am blind, and cannot steady my hand. This horrible disease continues.

(Signed) ROBERTA BRUCE.

"P.S. Oh! that I was in Lapland, standing upon some immense iceberg, overhanging the Aurora Borealis, not a thought would then extend to the convent. Do ride down and bring me one mouthful of cheer. Did you ever hear of, read of, or see so horrible a disease?"

Being urged by the family to visit her, I did so forthwith. Her conversation soon explained the purport of this incoherent letter. I remained in attendance during the day and night—and soon after returning home, received from her the following rhapsody:

"Oh! my sweet friend, he exclaimed, since now I feel myself entitled thus to call you, well indeed might your nation have hailed you as sacred; and while the heart which now throbs with emotion, to which it has hitherto been a stranger, beats with the pulse of life, on the return of this day will make its offering to that glorious orb, to whose genial, nutritive beams this precious rose owes its existence. I would rather possess one beam of that genius which elevates your mind above all earthly distinctions, and those principles of integrity which breathe in your sentiments, and ennoble your soul, than all the honours ever conferred on man. Our meeting was attended with a new and touching interest—the sweet result of that perfect intelligence which now, for the first time, existed between us, and which stole its birth from that tender and delicious glance, which love first bestowed on me, reclining near the cypress cemetery. While my very soul followed this brilliant comet to her perihelion of sentiment and imagination, I had my eye on her mind-illumined face, and said: Is expression then necessary for the conveyance of such profound, such exquisite feelings? May not a similarity of refined organization exist between souls, and produce that mutual intelligence which sets the necessity of cold verbal expressions at defiance? May not the sympathy of a kindred sensibility in the bosom of another, meet and enjoy those delicious feelings by which yours is warmed; and sinking beneath the inadequacy of language to give them birth, feel like you in silent and sacred emotion? Whether the tie which binds me at once to moral and physical good, is of a fragile texture and of transient existence, or whether it will become closely twined with the fibres of the heart, and, breaking, break it, time only can determine. To mine, therefore, I commit my fate: but while thus led by the hand of virtue, I inebriate at the living spring of bliss, while reeling through a wilderness of joy—all the life-giving spirit of spring, mellowed by the genial glow of summer, sheds its choicest treasure on the smiling hours which yesterday ushered in the most delightful of the season. The gray vapors of twilight were already stealing amidst the illumined clouds that floated in the atmosphere, the sun's golden beams no longer scattered around their rich refulgence, and the glow of retreating day was fading even from the horizon, where its parting glories faintly lingered—I arose earlier than usual; the disturbance of mind would not suffer me to rest; I walked as though I scarcely touched the earth, and my spirit seemed to ascend with the lark, which soared over my head, to hail the splendor of the dewy dawn."

After my next visit I received from her the following note:

"FROM THE CONVENT.

"Roberta Bruce, Queen of Scotland, is again compelled to address the mimic of ******. She really feels it a condescension for the royal queen to stoop thus low; but confined as she is in a cloister, it is not to be wondered at. She commands you to send the letter last received, as convoys are coming from every quarter of the globe, for the rare and sublime production, particularly from M. and K., who say they will stir heaven and earth to obtain it. She frequently visits M. On the last visit, he emphatically said: 'What affectionate hand will spread flowers over my solitary grave; for haply, ere that period arrive, this trembling hand shall have placed the cypress over the tomb of her who loved me living, and would lament me dead.' She never will forget the day on which he first saw her in Scotland, delivering her farewell address to her sires and countrymen. He walked up and repeated thus—'May the eye that sees thee for the first time, wish that it may not be the last, and the ear that drinks thy languishing words grow thirsty as it quaffs them. I now crown my golden hours of bliss, and whatever may be my future destiny, I will at least rescue one beam of unalloyed felicity from its impending cloud; for, oh! royal queen, there is a prophetic something which incessantly whispers me, that in clouds and storms will the evening of my existence expire.' As she was walking from the castle she again hurried to look back, and caught a last view of the mountain of Innismon: it seemed to float like a vapor on the horizon. She took a long farewell of this much loved spot. Once it had risen to her gaze like the Pharos to her haven of enjoyment; for never until this sad moment had she beheld it but with transport. She has again visited the Adonis of Virginia. He adverted to his admiration of the fair queen, and observed, that 'Sweet was the memory of distant friends—like the mellow ray of the departing sun, it fell tenderly, yet sadly, on the heart.' She rises in the morning with the orient sunbeam of brightness, and slumbers with the western gale. You shall soon behold her absorbed amidst the monuments of past ages, deep in the study of languages, history and antiquities. I have just visited M., and will give you his own words: 'How delightful,' he exclaimed, 'to form this young and ductile mind, to mould it to your desires, to breathe inspiration into this lovely image of primeval innocence; to give soul to beauty, intelligence and simplicity; to watch the rising progress of your grateful efforts, and firmly clasp to your heart the perfection you have yourself created.' This was spoken with an energy an enthusiasm, as though he had himself experienced all the pleasures he now painted for her.

"With a glance of indescribable supplication, she released herself from that glowing fold which would have pressed her forever to a heart where she must inevitably have ruled unrivalled."

I shortly after received from her the following letter:

"FROM THE CONVENT.

"Roberta Bruce, Queen of Scotland, will now sit down to address the mimic of *****; but it is the last letter that he ever will receive from her hand, as she will so soon return to the land of her sires. She does not pretend to censure the quacks of Virginia for not affording relief, as they are ignorant of the constitution of a queen. She will now proceed to give him some of his own glowing words. 'Her fancy is sometimes dazzled by the brilliant flashes of native genius. Her heart is touched by the strokes of nature, or her soul elevated by sublimity of sentiment from a vivid fancy, susceptible feelings, and a cultivated mind, which are never so fully tasted as in the sweet sunset of the day; then the influence of sentiment is buoyant over passion—the soul, alive to the sublimest impression, expands in the region of pure and elevated meditation—the passions, slumbering in the soft repose of nature, leave the heart free to the reception of the purest, warmest, tenderest sentiment, when all is delicious melancholy, or pensive softness, when every vulgar wish is hushed, and a refined and indefinable rapture thrills with sweet vibration on every nerve. But, O! royal queen! I was led to believe, (fatal conviction,) that the virgin rose of the fair queen's affection, had already shed its sweetness on a former, happier lover; that the

partiality I had flattered myself in having awakened, was either the result of intuitive coquetry, or, in the long absence of her heart's first object, a transient beam of that fire, which, once illumined, is so difficult to extinguish, and which was nourished by my resemblance to him who had first won her heart. What! I receive to my heart the faded spark, while another has basked in the vital flame. I, contentedly gather this after-bloom of tenderness, when another has inhaled the very essence of the nectarious blossom. I will, with a single effort, tear this late adored image from my heart, though that heart break with the effort, rather than feed on the remnant of those favours on which another has already feasted. Since human happiness, like every other feeling of the heart, loses its poignancy by reiteration, its fragrance with its bloom, let me not, while the first fallen dew of pleasure hangs fresh upon the flower of your existence, seize on the precious moments which hope rescued from the fangs of despondence. When I heard the fatal news, I felt like a being of some other sphere newly alighted on a distant orb.' She is like the rising of the golden morn when night departeth, and when the winter is over and gone. She resembleth the cypress in the garden. She may well say now, she rises in the morning with the orient sunbeam of brightness, and slumbers with the western gale."

She was true to her promise of not writing me another letter ; but she continued to write on various subjects, and had her manuscripts locked up in her bureau. She would sometimes read them to me,—at other times she could not be prevailed on to do so. Towards the close of her disease they assumed a more literary character. I regret very much that I did not procure some of them, as they would have discovered the astonishing powers of her mind The style of her last compositions, though somewhat turgid and occasionally too quaint, was considered very fine. She sometimes made me read them to her. If, in doing so, I made the smallest mistake in a word, or in the pronunciation, or even emphasis, she would correct me, and would often discover the shrewdest critical acumen that I have ever witnessed. I frequently thought I discovered misapplication of words, or bad spelling, and would refer to the dictionary and other authorities on the subject, and invariably found her correct. If there was an unusual word, or one which could be spelt in different ways, she generally used it or spelt it in the obsolete way, as if to entrap persons disposed to criticise, and to enjoy the pleasure of confounding them. In a girl, who had scarcely left school, this critical accuracy would appear astonishing—but it is not half so much so as many other things connected with her disease, by which she gained an ascendancy not only over the servants, but over her brothers and sisters and parents, and even the neighbours, many of whom were impressed with a belief that she could divine events, and knew the secrets of their hearts. A few instances will suffice to show her gifts in this way. The family were always very cautious about imparting to her any unpleasant news, and I had particularly enjoined it upon them not to hold conversations on any such subject in her presence. During one of her long paroxysms of catalepsy, in which she was curved like a hoop, and apparently entirely insensible to every thing around her, news of the death of an aunt was received by letter : the family, I believe, were not apprised of her previous illness, as she resided far from them. Of course great care was taken to keep her from a knowledge of so distressing an event—and all who could not appear composed, were enjoined to keep from the room. So soon as the spasm left her, she called for her sister, and asked her if she knew that aunt H. was dead—and who had informed her. Her sister used the pious fraud of denying that such a calamity had occurred. She told her that it was useless to deny it, that she had seen her distinctly, and told them the very day of her death, &c.

There is, perhaps, no person who believed more firmly than myself in the aphorism, "*nil est in intellectu quod non prius fuit in sensu.*" I therefore instituted the strictest inquiry to discover whether there had been conversation in the room on that subject, while she appeared insensible, so that the sense of hearing might have conveyed the impression to the sensorium, while the other senses were locked up. I could by no means discover that this had been the

case ; yet my theory (but nothing else,) leads me to the belief that such must have been the case.

During her illness I was sent for, in consultation, in the case of a young gentleman, who had been long labouring under a diseased liver. My cataleptic patient took great interest in the case, and made daily inquiries about him. When I was sent for, she observed that it was too late ; if I had been sent for at an earlier period of the disease, she could have instructed me how to cure it. But now, she said, she had taken a view of the hepatic system, and found it entirely disorganized, and he would inevitably die. Her prediction was soon verified. Immediately after the death of the young man, I went to see her, and was the first to communicate information of his death to the family. They, as usual, were cautious about saying any thing concerning it in her presence, and I know that I did not speak of it in her room. Yet, soon after I went into her room, on reviving from one of her swoons, she told the family that Mr. J. was dead. Some of them denied it; but she repeated the assertion most emphatically, and, I think, shed tears. I know not how she could have come to this knowledge, unless the sense of hearing, as conjectured in the other case, was so acute, as to enable her, while the catalepsy was on her, to hear whispering in the passage, or in the opposite room. I do not believe that any person in existence, with the ordinary auditory faculties, could have heard it ; yet, sooner than surrender the doctrine that all information is communicated by the senses, I must believe that the information was thus obtained.

About this time, while returning from a visit to a patient, I was invited to partake of a feast on the road side. While waiting for it to be served up, a most severe thundergust came on, and the rain fell so hastily, that it was impossible, though I rode at the top of my horse's speed, that I could reach a house about a quarter of a mile distant without getting wet; many of the company were completely drenched. So soon as I had dined, I visited my patient, and was informed by the family that she had been extremely ill, and that the paroxysms had been more violent than they had ever witnessed; that when the storm came on, she became greatly agitated, shrieked and halloed, clapped her hands, and shouted, " Wallace! Wallace! see how he goes "—with various other exclamation, manifesting her alarm at the danger to which the person mentioned was exposed from the storm. She swooned away, and remained insensible for some time. When she spoke, she reverted to the subject of the storm which had then passed over, and declared that she had seen me exposed to it, and in great danger. The family tried to convince her that it was probably not the case, as I expected to remain at home to repose, after sitting up the previous night. She persisted in her opinion, and spoke of nothing else, when free from the spasms, which came on in rapid and alarming succession. So soon as I came into the room she seemed delighted to see me, and described the excruciating agony which she had suffered while Wallace was exposed to the storm. It may be well to remark here, that soon after she assumed the name of Roberta Bruce, she conferred on me that of Wallace. The accuracy of her accounts of the events of this day, her precision as to the time, shook my faith in the doctrine of the senses being the *sine qua non* to intelligence. But I ultimately accounted for it as I have done for similar things connected with dreams. As great dreamers are always dreaming, it is not strange that they should sometimes dream of actual occurrences. As she, about that time, was always apprehensive for me when absent, it is not strange that the terrors of a storm should have excited her vivid imagination to a perception of occurrences which in themselves were highly probable. As I had many patients, it was quite likely that I should be riding, and might be exposed to the storm; from which I should, of course, endeavour to escape by hard riding. As the distance was not more than five or six miles, and the storm extended to both places, it is not so remarkable that her agitation should have commenced at the precise time of my exposure.

I have selected these from a great variety of other strange things, which were witnessed in the progress of this incomprehensible disease. If my solutions be not correct, let others find better. The facts are irrefragable, and can be established by the best testimony under oath.

Towards the middle of May, all the symptoms of the disease became milder; and some time in that month she came on a visit to my house, where I had for many days an opportunity of watching the changing phases of the disease. There was still an unnatural vivacity about her. She seemed, as she expressed it, "inebriating at the living spring of bliss, while reeling through a wilderness of joy." The case had excited great interest in the country, and visitors of all descriptions daily called to see her. Most of the physicians of the country, and some from a distance, saw her. Clergymen, lawyers, and judges were often with her, and were sometimes instructed, and always amused, unless something was said to draw from her that keen, biting sarcasm, which none who have felt can forget. I have seen her in conversation with many talented men of the various professions of this country, and her colloquial powers were such that she never for a moment hesitated for a word or an idea on any topic that was started; and I have never known her, in a single instance, defeated in discussing any subject. If she did not by her ingenuity turn the argument against her opponent, she would by her vivid flashes of wit, cast such ridicule upon him that he was soon discomfited. I have seen persons, who have smarted under her keen satire, on account of some peculiarity or some foible, hide their heads, or slip out of the way, to avoid her observation; she was certain to perceive it, and to subject them to the severest chastisement that tongue could inflict.

Unfortunately, during this period of high mental excitement, a ball was given, and she of course invited; for, what beau who hoped for future ease in society, would dare to withhold an invitation from one who could wither him into nihility by her sarcasm and wit, which she would not have hesitated to publish in the paper of the town? nor would the editor have dared to refuse publication. I used every argument, and worked every kind of traverse to counteract her intentions of attending the ball, but all in vain. She dressed herself in the gayest and most fantastic attire that she could procure, and in all the dignity and state of a queen,* went to the ball. She was an object of admiration, not only on account of the great notoriety which she had acquired, but the vivid scintillations of her wit, which seemed to enliven the whole assembly, and the ludicrous attitudes in which she placed some of the dandies and coquettes who were present. She indulged not only in dancing, but in the rich and savory viands that were offered —and on her return to my house she soon relapsed into her cataleptic state. Night after night have I watched by her bedside—often without sleeping a wink. Sometimes I would fear, much as I had become accustomed to the various changes of her disease, that life was almost extinct; and just as I thought my fears were about to be realized, she would revive, and entering into the most lively conversation, would keep me and the attendants convulsed with laughter. After spending a night in this way, she would sometimes rise in the morning, dress herself, and go into company as if well. Sometimes, in the midst of conversation, she would be seized with a cataleptic fit, and whether standing, sitting, or reclining, she remained in the position which she occupied at the moment of attack. Her eyes were generally fixed immoveably, with that peculiar expression which I have attempted to describe in the preceding part of the protracted history of this case—her respiration suspended, and her muscles rigid. The peculiar characteristics of catalepsy were strikingly manifested at this period of the disease: the limbs, though rigid, were moveable—you might bend the arm, extend it, place the hand to the chin, forehead, or any other part of the body, and there it would remain during the paroxysm—the whole body could be made to assume the appearence of statuary, of which it was the finest model I have ever seen.

These attacks were alternated with others which were convulsive, in which the body was contorted into a variety of shapes. The trains of idea succeeding these two forms of the disease, were as separate and distinct as those of two different persons. For instance,—after recovering from a cataleptic fit, she would resume the discourse which she had been engaged in after a former attack,

* The excitement of preparing, dressing, &c., for the ball, had induced a return of this hallucination.

without seeming to perceive that there had been any interruption to it. Sometimes she would be seized in the midst of a sentence, which she would, after the attack, complete with grammatical accuracy. After the attack of convulsion, she would, in like manner, resume the train of conversation peculiar to that attack. And what is remarkable, you never could bring her in one frame of mind to a consciousness of what passed in the other. I have often heard her criticise with severity, and ridicule the ideas and expressions attributed to her under such circumstances.

After some abatement of the symptoms she was moved home, a distance of three or four miles. Here the disease returned very much as it had been at my house, and continued, in spite of all the remedies prescribed by myself and various other physicians, until the 22d of July. About a fortnight before that day she observed to me, that I had frequently proposed to extract a carious tooth of her's: that it had been revealed to her that if she would have it drawn on the 22d day of July, precisely at three o'clock, (I think that was the hour,) it would instantly relieve her; but that it would be dangerous to draw it at any other time. I could not possibly prevail on her to consent to an earlier period, and she often seemed alarmed lest I should attempt it forcibly, declaring that it would kill her. Before the arrival of the day, we determined to muffle the clock, the ticking of which, though in the room below her chamber, often alarmed her; and I directed the family to set it back, if any accident should prevent my arrival before the appointed hour. I, however, arrived before that hour; when I went into the room, she seemed agitated, but resolved to submit to the operation, When the hour arrived, she permitted me to examine the tooth, &c. When all was ready for the operation, she swooned off, and I extracted the tooth without difficulty. She laid a short time in the swoon, which terminated in a convulsion. So soon as she opened her eyes, she expressed great relief; looked more composed than I had before seen her—in the course of an hour she called for her work, and from that time forward attended to it and her studies, as if they had never been disturbed. She never had any return of the disease that I heard of. She married a worthy gentleman four or five years since, and is the mother of one or two children.

I will only add one other remarkable circumstance to this extraordinary case, that physiologists, phrenologists, the disciples of animal magnetism, and others, may be better able to reconcile it to their various theories. Soon after she had resumed her usual occupations, she found the manuscripts which had been locked up in her bureau. She happened to take up first, one of the lighter production: after glancing at it, she ran off to her older sister, and told her that she had found some love letters of another sister, which were the rarest productions she had ever seen—and urged her to read and enjoy them with her. Of course she never was undeceived, and is to this day, no doubt, unconscious of having written them, as she is of every thing else that transpired in her cataleptic state.

M.

OBSERVATIONS ON THE MANAGEMENT OF CLUB-FEET, WITH TEN CASES.

BY A. G. WALTER, M.D., OF PITTSBURGH, PA.

[THE "Observations," by Dr. Walter, have been on our table for some months past. Their insertion was delayed until we could receive from their author a specification, 1st, of the improvements which he speaks of having made in Strohmeyer's apparatus for club-foot; and, 2d, of the several tendons and ligaments which he cut in the casea mentioned in the Observations. Details of this nature are due both to his professional brethren and to the reputation of the operator himself; and the want of them diminishes not a little the value of the present paper of Dr. Walter. We give it a place, after having received a promise from Dr. W. that

he will furnish us hereafter with the specifications required, and other details illustrative of the pathology of club-foot, as well as of his practice for its cure. We ought to add, that more than one highly respectable practitioner of medicine in Pittsburgh has manifested a very lively interest in Dr. Walter's success, and has expressed a desire to see his Observations published. This is indirect, but at the same time weighty testimony in favour both of Dr. W.'s skill, and of the accuracy of his statements. We shall expect ere long, however, the completion of his promises, and his paper on this subject.—*Editor Select Med. Lib.*]

Several reports of cases of club-feet successfully treated abroad and at home have appeared in different medical journals of this country, and have entirely settled in the minds of the medical profession the question of the practicability of a complete cure of this very distressing deformity.

The learned and ingenious Strohmeyer of Hanover, is entitled to the high honour of having satisfactorily solved the problem which for nearly two thousand years puzzled the minds and baffled the exertions of the most skilful surgeons, to devise an operation founded on physiological and pathological principles, by which the deformity of club-feet shall be remedied.

There has been much discussion respecting the claims to originality of several operators, which evince much national and personal jealousy. This professional jealousy we deem very unbecoming the character of those who cultivate so honourable a science as that of medicine; and as we should receive thankfully, and acknowledge frankly every valuable improvement and invention, let it come whence and from whom it may, we shall refrain from discussing the merits of the respective claims to originality set up by several operators. Nor shall we dwell on the history of the operation devised and executed in this case, but take the liberty to refer the reader to a well digested and carefully written inaugural dissertation by Dr. W. T. Little of London, published in 1837 in Berlin. Dr. Little had the misfortune to be afflicted with this deformity, and having been operated on by Dr. Strohmeyer with entire success, took great interest in this branch of surgery, gave great attention and much time to its investigation, and as the result of his labour has presented to the profession a work thoroughly explaining the pathology of club-feet, and fully detailing the history of the operation for its cure. Those who are curious in such researches will, we are very sure, if they pursue them in the proper spirit, arrive at the conclusion, that although other surgeons may have undertaken the operation prior to the date of Strohmeyer's first one, yet he may and ought to be considered the founder, restorer, and great improver of the operation as now established. If indeed other gentlemen have successfully operated for the cure of club-feet, we cannot imagine why they should have failed to communicate their success to the public. The deformity is very frequently met with, is peculiarly afflicting in its nature, and the duty of reporting valuable results, and thus adding to the general fund of medical knowledge, is imperative on every member of the profession.

Although this truly ingenious operation rests on the true basis of physiology and correct pathology, and within a few years has been frequently performed in different countries, still it is new, requires to be well studied, and if possible

farther improved. Believing that it may not be uninteresting to the profession, we shall present some of our own observations, and submit for the consideration of our professional brethren what we deem material improvements in the operation and after-treatment. Having attended to a great number of cases of this kind on the other side of the Atlantic, we attempted the introduction of the operation for club-feet to the notice of our professional brethren on this side of the mountains in September last. We had great difficulty to persuade the first person who presented his case to undergo the operation, and beg leave here to acknowledge our indebtedness to the great kindness and continued assistance of Drs. J. P. Gazzam and A. N. McDowell of this city, for the candid and liberal feelings with which they examined, and for the generosity with which they expressed their conviction of the merits of our operations. As our mode of operating differs somewhat from that of Strohmeyer, and materially from that of Dr. Detmold of New York, we venture to present to the public some remarks, and the result of our cases.

We dismiss, as unimportant, the question of priority between Dr. Detmold and ourself, and have been gratified by reading his communication. We are not at all surprised at his reports of failure in several cases; since carefully conducted experiments, and close observation have demonstrated, that the division of the tendo-Achillis alone cannot be of any decided and permanent benefit in by far the greater number of cases of club-feet. We intend to give in a future number a full account of the anatomical condition of the parts concerned in this deformity, in reference especially to the ligaments and tendons involved, of which there are several besides the tendo-Achillis, the number of affected tendons determining the kind and degree of deformity, the position of the bones, (which we consider a subluxation,) and the arteries to be avoided in the operation,—to which we shall add some remarks on the after-treatment, so indispensable to success.

As to the operation in general it is one which requires the most intimate knowledge of the anatomical structure and position of the parts concerned, more especially in children, whose feet present a thick layer of fat, rendering it difficult to examine the tendons with the precision prerequisite to the use of the knife. The division of the tendo-Achillis alone is easily enough performed; that of the other tendons and the ligaments is more difficult. The blood-vessels to be avoided require particular attention, especially in the contracted feet of infants. To this is to be added the importance of making the smallest possible wound of the skin, which in cutting the strong tendo-Achillis across, while the blade of the knife is concealed from the operator's eye, requires great care and dexterity.

Every one employed in this branch of surgery will agree with us, that it requires great patience, care, and attention on the part of the attendant, in default of which the patient may be subjected to intolerable pain, and the surgeon foiled in his attempt to restore the foot to its natural shape. But with a perfect knowledge of the anatomy of the parts; a sufficient degree of skill in the use of the knife, and a determination to spare no trouble in the after-treatment, we can with great confidence hold out to the patient and friends assurances of the restoration of the feet to their natural shape and use. Some very good general operators have signally failed in their attempts to perform this operation, partly from its intrinsic difficulty, and partly from their unwillingness to bestow all

the necessary attention, time, and trouble, on the after-treatment, without which no one can hope for success.

Our manner of treating these cases differs materially from that of all known surgeons. We prefer to divide all the tendons implicated in the contraction of the foot, and frequently we find it necessary to divide the ligaments, a mode of proceeding by which we save the patient much pain, and greatly facilitate the extension of the foot ; advantages which do not result from the division of the tendo-Achillis alone.

The particular tendons and ligaments to be cut in any given case must be determined by the nature and extent of the deformity ; and for this decision the surgeon must put in requisition his judgment and ingenuity. Strohmeyer of Hanover, Dieffenbach of Berlin, and Little of London, operated in the worst cases by dividing not more than three tendons, and yet the extension of the foot was very painful, and sometimes caused extensive inflammation. Dr. Detmold of New York, speaks, in his Report, of the division of the tendo-Achillis alone, and this accounts for his failures. We believe that after discontinuing the extension, the tendons (in cases in which the tendo-Achillis is the only tendon cut) will contract again, and turn the foot inward. Dr. Detmold details Strohmeyer's mode of operating, to which we prefer the simple division of the skin without pressing the tendon on the knife, as being more easy of performance, and less painful to the patient. Neither do we agree with Strohmeyer in performing the operation "*en deux hemps*," a mode of proceeding unnecessarily painful, and rendering the cure more tedious.

The manner of operating by the oblique cut, as in the case of John Whipple, detailed in the *American Journal of the Medical Sciences*, derserves no patronage ; nor will the reasons assigned stand the test of scrutiny, or induce surgeons to imitate. It is more painful, and presents not a single advantage over the mode by transverse incision.

After the operation we use a straightening apparatus, similar to that recommended by Strohmeyer, to which we have added some improvements, greatly facilitating the extension of the foot in different ways. As to the time of its employment we differ from our contemporaries, and put it on much earlier without any apprehension of tearing the newly formed mass between the cut surfaces of the tendons. Strohmeyer delays the application of the extending apparatus too long, while Bouvier of Paris directs its immediate application, a practice which is objectionable, inasmuch as the process of reunion requires time, and the pressure of the bandages increases the inflammation and disturbs the healing of the wounded tendons. Strange as it may seem, it is nevertheless true, that in cases in which both feet are affected, we always find the greater deformity, and least power of motion in the right foot.

There is no doubt that in some cases it is practicable to effect a cure by extension alone, but this proceeding requires great length of time, and inflicts great pain on the patient ; so much so, indeed, that not unfrequently it is abandoned after the patient has been annoyed, and the surgeon not a little worried by the attempt. It is therefore only in the slighter cases of deformity, and in very young subjects, that we practice the plan by extension alone. Dr. Detmold reports three cases in which he succeeded in this way, but not without great suffering to his little patients, and only after the lapse of much time. We shall report

hereafter a case which we cured by extension alone, but the contraction was slight, and the case came under our care within five days after the birth of the child. So far from being in favor of the unnecessary performance of bloody operations, we always avoid them if the end in view can be obtained by less painful modes of procedure. We believe, however, from a careful pathological and physiological view of the deformity under consideration, that, when we have trusted solely to extension, there was a constant liability to a renewal of the contraction of the tendons, especially if the parents become remiss in their attentions to the case. Although this reason may be sufficient to sanction the operation, yet there are others of sufficient importance to entitle them to grave consideration. It is demonstrated by experience, that the extension after the operation will go on more rapidly and more certainly, with far less suffering to the patient and less trouble to the mother, while the mode by mechanical management alone occasions continual stimulation of the tendinous fibres; provoking them to elastic contraction, and exciting spasmodic actions of the muscles—alike distressing to the patient and annoying to the surgeon and friends.

The proper shape and position of the foot having been restored, the patient may be permitted a free use of it so soon as the surgeon's ingenuity has been put in requisition by the contrivance and application of a proper shoe to support and retain the foot in position. If this be neglected, the newly extended parts will again contract somewhat; and thus a good deal of what may have been gained will be lost.

Every case of club-foot (irrespective of age,) admits of a cure so long as free motion of the articulations of the foot be preserved. Anchylosis sometimes results from chronic inflammation; and the consequent conglutination of the bones renders the case hopeless. An unusual stiffness from contraction and rigidity of the ligaments may resemble anchylosis, and this fact should be borne in mind. The entirely incurable cases depending on this pathological state of the joints are so rare that some surgeons actively and extensively engaged in this particular branch of surgery declare they have not met with a single such case. In the worst cases there will always follow after the operation, a great amendment in the shape and position of the foot, so that the patient will be able to walk on the sole, and to wear a common boot or shoe; although if he should from restlessness and want of perseverance, refuse to submit to the due continuance of the extension, the cure may be imperfect and the toes point in a little.

An unnaturally free rotatory motion of the knee-joint (a condition which obtains in most cases of club-feet, if the patient be old enough to walk much,) is a very unfavourable circumstance, and requires the strictest attention on the part of the surgeon. Dr. Detmold is probably aware that this fact is here noted for the first time.

Having seen, in the number of the *Eclectic Journal of Medicine* for July 1838, a summary of Professor Delpech's case by Dr. Togno, we cannot refrain from objecting to his mode of operating and proceeding, although fully acknowledging his high merits as a surgeon, and thankfully receiving his observations on the management of club-feet.

For the division of the tendo-Achillis as well as the other tendons, the smallest wounding of the skin is not only quite sufficient, but the smaller the incision the better; while an incision of an inch in length, according to Delpech's method, will

bring on tedious suppuration of the skin, retarding the process of union of the tendon, and incur the risk of sloughing of its surfaces. In a large number of cases we have never witnessed this unfavourable circumstance; the union of the tendon as well of the skin having always been by the first intention. Nor have we ever known any ill results from early extension. Delpech did not commence extension till twenty-eight days after the operation, which gave, as might be anticipated, much pain; and we should not have been surprised had it ended in total failure. After the completion of the straightening process Delpech states that the flexion of the foot could not be carried beyond a right angle, while our experience has convinced us that if extension be resorted to in time, the foot can, as in the natural state, be bent beyond a right angle. The oblique division of the tendo-Achillis recommended by the French surgeon is more difficult of performance, and has no advantage whatever over the simple transversal section.

Mr. Liston of London, in his work on Surgery, speaking of the operation and cure of this deformity, says, that after the division of the tendo-Achillis the ends are to be kept asunder sufficiently to admit of placing the foot in a proper position, and this to be attended to until the cure is completed by the filling up and consolidation of the void. It can scarcely be deemed necessary that we should assign our reasons in detail for giving a very decided preference to the method of Strohmeyer. Repeated experiments and observations abroad and at home have demonstrated the superiority of his mode of managing these cases.

In infancy the malposition of the feet is not so easily remedied by splints as Mr. Liston supposes, while in most cases the contraction is so great as to render their use wholly impracticable. The great number of crooked feet to be seen in the streets of every large town may be taken as some evidence of the inefficacy of Mr. Liston's plan, (consisting of splints of leather or pasteboard secured with adhesive plaster,) while every mother who has witnessed the application of such an apparatus, has been convinced that it ends in disappointment, after the expenditure of much time and trouble. We have never operated without dividing the tendons of the *tibialis posticus*, and *flexor longus pollicis pedis*, and cannot acquiesce in Mr. L.'s opinion that these tendons may not easily and safely be interfered with; never having observed any untoward circumstance accompanying or succeeding this operation. Nor do we coincide with Mr. L., that art cannot avail in the severest forms of this congenital malformation, and in mature age. Continental surgeons have presented many proofs of their success in the worst cases, and even in very advanced age; the probability of success being always determined by the integrity of the ankle-joint.

There is still great diversity of opinion among surgeons as to the mode of union of divided tendons; the anatomical character of the conglutinating mass, and the exact condition of the parts after a successful operation; all of which can be settled by carefully conducted dissections alone. We intend in a future number to give the result of dissections of feet which had been operated on, showing the character of the uniting mass physiologically and pathologically considered, and we shall now proceed to detail ten cases operated on, and treated by us in this city.

Case I.—Hamilton South of Pittsburgh, six years and a half old, a very lively and healthy looking boy, was born with very badly contracted feet, presenting one of the worst cases of this deformity. We met this boy when looking about for a subject for the operation, and succeeded, not without a good deal of

trouble, in persuading his parents to have his feet straightened. As it was a novel undertaking, the success of which could scarcely be believed by most people, and respecting which the parents of the boy were themselves incredulous, we could not obtain their consent to a simultaneous operation on both feet. This boy notwithstanding the bad position of his feet, and the difficulty he experienced in progession, walked a great deal. The sole of the feet turned up and presented backward, the points of the toes touching each other, the heel was retracted about one inch and a half; the body resting entirely on the top of the feet on the metatarsal bones. There were two large lumps on the top of each foot, one of which formed the only support of the body. The feet were bent so much in as to form a right angle with the inner edge of the tibia, and so strong was the contraction that the foot could scarcely be turned out. The muscles of the calf had nearly disappeared, the external condyle was very prominent, the inner quite gone. All parts of the feet were well formed, but very much contracted, so that the sole formed a curved line instead of a straight one. There was a very extraordinary degree of motion in the knee-joints, so that the boy's toes faced backward in walking.

Considering this state of the feet merely, we were disposed to entertain hope of a perfect cure. The great vivacity however of the boy, his dislike of all confinement, his turbulent temper, his disobedience of his parents, with our inability to obtain any influence over him, made us fear that he would not patiently submit to the little inconvenience to which he must necessarily be subjected during the cure. Notwithstanding these unfavourable circumstances, we operated on the left foot on the 3d of September, 1837, by dividing three tendons, being those most contracted. All went on very well. The exaggerated fears of the mother that spasms would supervene were not realized, and we began very soon to make extension, which gradually brought the foot into position. Soon, however, we found our apprehensions of the intractableness of the boy verified. After eight days confinement he got tired, unbuckled the straps, cut the strings, walked about with his apparatus on, and repaid our trouble and patience by flagrant disobedience and total disregard of advice. In spite of all these untoward circumstances, we kept on the apparatus for three weeks, after which time his patience was exhausted, and nothing could induce him to wear it any longer, although he really suffered no pain from it.

We were obliged to remove the frame, which we should have preferred to keep on longer, and had the pleasure to see the sole of the foot touching the ground—the heel down, the foot turned much out, and the large lump on which he had heretofore rested in walking, nearly gone. We contrived a suitable shoe for him, in which we kept the foot day and night for some time, when the boy became much pleased in looking at his straight foot, and was at last dissatisfied when he was no longer permitted to wear his shoe. The little fellow was so proud of his straight foot, that he invariably stepped "left foot foremost," and repeatedly asked me to make his other foot straight, promising to behave better under the treatment than before. I had taken a cast of the foot previous to the operation, and the difference between that and the foot subsequently, was so very striking, as to demonstrate at once the great benefit the boy had received. Dr. A. N. McDowell of this city, has examined the cast and compared it with the foot operated on, and has been pleased to express his great gratification at the

result. The boy importuned us frequently, and his parents pressed us a good deal to operate on the right foot; we declined however, feeling reluctant to encounter so much trouble, hoping that time might ameliorate the boy's temper so far as to enable us to operate hereafter under more favourable circumstances. Seven months after the operation the child died of Scarlatina, and thus we were frustrated in our design of repeating the operation on our first patient on this side of the Atlantic, and by far the most refractory we have ever had.

Case II.—Isabella L. K., of Pittsburgh, aged 16 months, a very healthy and fine looking girl, was born with club feet, of which the right was most deformed, and worse than any I have ever seen in so young a subject. The sole of the right foot faced backward and a good deal upward, so that its points of contact with the floor, in the standing position, were the outer ankle and the instep. The bending out of both feet could scarcely be effected in the slightest degree, the heels being retracted more than an inch and a half. The inner condyle was entirely obliterated; the rotatory motion of the knee joints very great, and the sole of the feet formed a concave instead of a straight line. The affected tendons could not be touched on account of the thick layer of adeps under the skin. The little girl, being strong and healthy, had made repeated but fruitless attempts to walk, the toes of both feet touching each other. On the 26th of December, 1837, we divided four tendons in each foot; scarcely a drop of blood flowed. Although the child was very restless we succeeded in keeping the apparatus applied, and at the end of the first week, the feet had already made considerable approximation toward the natural position. The great tenderness of the skin embarrassed us a good deal in this case; and in the second week, the frame began to press on the sole of the right foot, causing sugillation, and rendering it necessary to remove the apparatus. We persevered with the left foot, and in three weeks restored it to its natural position and shape—the heel being down, the sole flat, and the foot turned out. So soon as the sugillation disappeared, we replaced the right foot in the machine. The tender part again became sore, and for five weeks we were employed in remedying the excoriation. After the loss of so much time, at an important stage of the treatment, we could scarcely hope for ultimate success: nevertheless, we re-applied the apparatus, and after three weeks' constant attention, we had the gratification to find the heel worked down, the sole flat ,and the foot turned a good deal out. We should have preferred keeping on the apparatus a while longer, but the parents had become tired, and the child very fretful, and we were compelled to remove it.

The little girl soon tried to walk, and at the end of two months obtained the complete use of her feet. A slight turning in of the right foot remained, which depended upon the unnatural motion of the knee-joint.

Case III.—Daniel S., of Pittsburgh, two and a half years of age, was born with both feet alike contracted. He had been sickly during the first two years, but had thrived better in the third year, and increased in muscular strength. He tried to walk, but his ankles were so weak that his feet turned quite in, his weight resting on the outer *malleoli*, and occasioning great pain. This case was very unpromising in appearance. The tendons, however, were less rigid, the position and shape of the feet being the same as in the cases already related. This boy seemed to us a good subject for the operation; being very patient, tractable, and disinclined to motion, and of course not likely to be restive during the necessary

confinement. We operated on him, on the 12th of February, 1838, by dividing four tendons in each foot, and succeeded so well that in three weeks his feet were perfectly straight without the least inclination inward. The little fellow was patient and cheerful during the whole of the treatment, and his case offered strong proof that the mode of cure is certainly not painful. The child amused himself, required no nursing, and slept soundly at night. Dr. J. P. Gazzam, of this city, saw this boy seven weeks after the operation, and examined also the casts of the feet taken previous to the operation.

In this case the child had acquired great facility in creeping on his knees, and this practice he continued after the operation. The use of the feet was thus delayed, but he has now got into the way of walking and is rapidly improving in his mode of progression.

CASE IV. James M., of Pittsburgh, aged three years, was born with club feet rigidly contracted and the toes greatly turned in. The child, when we first saw him, had never walked. On the 15th of March, 1838, we operated by dividing four tendons and one ligament in each foot, and soon commenced extension. The child, although delicate, bore both operation and after-treatment well. At the end of three weeks and a half the feet were perfectly straight, the child could stand on them firmly, and soon began to walk. In June the family removed to the west, highly gratified at the benefit conferred by the operation, and expressing their thankfulness in the warmest terms.

CASE V. Virginia H., aged nine months, of Shousetown, Pa. This case was introduced to our notice by Dr. A. N. McDowell, of this city, whose kindness we beg leave to acknowledge. This child had a slight curvature of the right foot at birth, which grew rapidly worse, notwithstanding the application of a shoe contrived by a medical gentleman of the neighbourhood. Although very delicate at first, the child thrived well, while the contraction of the tendons became more conspicuous. This was a favourable case, the deformity depending on the contraction of but few tendons. The sole, however, faced backwards, the metatarsal bone of the little toe touched the ground, and the heel was retracted one inch. At the knee joint there was great freedom of motion favouring the turning in of the foot.

On the 18th of April, 1838, in the presence of Drs. J. P. Gazzam, A. N. McDowell, W. Addison, and Speer, of this city, we operated by dividing three tendons and one ligament. The cure progressed rapidly and without any untoward symptoms, the child seeming but little incommoded by the operation or after-treatment. She soon began to stand on her feet and to use them. The state of the knee joint occasions a very slight turning in of the toes, which time is gradually diminishing.

CASE VI. Thomas Walter D., of Pittsburgh, aged two months. This robust infant presented the worst case we have ever witnessed in so young a subject. A greater number of tendons were contracted than in any of the preceding cases, and these too in an unusual manner, scarcely permitting the smallest degree of mechanical extension. We divided four tendons and two ligaments in each foot on the 19th of May. The operation was bloodless, although the greater quantity of fat rendered the sense of touch of no avail in seeking the tendons. We went on extending the feet for nearly four weeks, and had then the satisfaction to see the child's feet perfectly straight. Although at the time of writing this he is but five months old, yet he uses his feet as well as children of his age usually do,

and gives promise of being an early walker. The child's health was not interrupted for a moment by the treatment, nor did the apparatus produce any apparent inconvenience.

Case VII. Charles Walter McW., of this city, aged eight months. This is s seven-month's child, who was so feeble at birth as to preclude hope of living. The right foot was exceedingly deformed, quite turned in, and the heel high up. The mother was anxious to have him operated on at once, but the child was so feeble, and gave his mother already so much trouble, that we postponed it, hoping to find the child in better condition at a future time. When seven months old he began to thrive, although still delicate and fretful. On the 28th of June, 1838, we divided five tendons and two ligaments, in the presence of Drs. Reynolds, Kerr, and Gazzam. The extension went on very well, although the child was exceedingly fretful, and gave the mother much trouble. The cutting of his first teeth made him very sick for a few days; he got along, however, without losing flesh, and at the end of three weeks the foot was natural in shape and position. The difference between the foot as represented by the cast, taken prior to the operation, and that offered to the eye now is very striking.

Case VIII. Samuel Sloan, of Pittsburgh, aged thirteen years, slender person, but good health, a native of Ireland, was born with the left foot very crooked. When Samuel was an infant his mother was advised to have the foot broken that it might be brought into position. This proposition was declined, and all hope of amendment abandoned. This was a bad case, the sole of the foot forming half a circle, faced backward and upward; the heel was retracted nearly two inches, the toes pointed in very much, forming a right angle with the inner edge of the tibia; the back of the foot very convex, and covered with two large lumps; the larger of which, resting on the tarsal bones, was the point of support in walking. The calf of the leg and the internal condyle were obliterated. The boy inclined much to the left side in walking, was very lame, and as the deformed limb was shorter than the other, his gait was very awkward. The contraction was very rigid, scarcely yielding in the least to powerful extension. On the 6th of July, 1838, in the presence of Dr. J. P. Gazzam, of Pittsburgh, and Dr. Thos. F. Dale, of Alleghanytown, we divided six tendons and some ligaments. Very little blood flowed. We very soon commenced to straighten the foot, and met with astonishing success in a short time; for in two weeks the foot had gained nearly its natural shape and position, without the infliction of pain. The skin, however, was very tender, and required great attention to prevent excoriation. The foot is still (August) confined in a proper shoe, while writing, but we feel very confident that before this paper shall have passed through the press the boy will be walking on a straight foot with a common shoe.

Case IX. J. D. Sampson, of Hamilton county, near Cincinnati, Ohio, three and a half months old. We were consulted by the parents of this boy on account of the congenitally crooked state of his feet, which being a pretty bad form of *pes varus* offered nothing particular except that the heels were contracted more than two inches, the sole support of the body being the outer edge of the metatarsal bone of the little toe. The contraction of the tendons was pretty strong, the child's health very good, although he had been annoyed by the confinement of shoes, which, while they occasioned undue pressure and inflicted pain, yet failed to answer the purpose for which they were designed.

We operated on him on the 30th of July, 1838, by dividing three tendons and one ligament in each foot, which being done the feet could be brought immediately into the straight position. The small wounds soon healed kindly, and the extension went on in the most favourable manner, so that in twenty days after the operation we applied shoes adapted to his case.

This child, although brought from the country, and operated on at a season rife with infantile disorders, has suffered no inconvenience, and will soon return with perfectly straight feet. We have taken one impression of the feet previous to the operation, and another four weeks after, but yielded to the importunities of the parents, and gave them the casts which represented the congenital condition of the child's feet.

CASE X. Dr. J. P. Gazzam asked us to see the case of the infant son of Mr. John Stewart, of this city, aged five days. Both feet crooked, the heels retracted nearly an inch, toes pointed inward, and the sole faced upward. The tender age of the patient, the little rigidity of the contraction, and the mobility of the feet, induced us to try extension by an apparatus based on the same principles as that used by us after the operation. By this means we succeeded in effecting the complete straightening of the feet, and a proper shoe retained them in that position. This is the only case we have met with, admitting of exclusively mechanical treatment: and although Dr. Detmold's three cases of children more advanced in age resulted favourably under this treatment, yet we would rarely prefer it, while the operation affords us a quicker, less painful, and far more certain method of attaining the desired result.

We shall shortly repeat this operation in several cases, and shall frankly communicate the results to the profession, hoping that repeated observations will prove the importance of some of our improvements in the treatment of this deformity.

Pittsburgh, Pa., 25th of August, 1838.

DR. DARBY'S CASE OF HEMIPLEGIA.

DR. JOHN BELL. Lexington, Ky., May 10th, 1839.

SIR:—Being a subscriber to your Journal, I send you a case for publication, if you think it worth a place.

Mr. R. aged about 50, during the course of a severe pneumonia, from which he was recovering, upon the occasion of violent mental excitement, was struck with a palsy of one side, including the tongue. Mr. R. had felt for many years a numbness in the right arm; had been injured on the frontal bone during youth, from which however he soon recovered, and never experienced afterwards any inconvenience. Was of a robust make, sanguineous temperament, rendered more excitable by free living. He died in about ten days, in spite of the efforts of Dr. J. M. Bush and myself. No examination of the body was allowed; yet the case may be worthy of note for the following reasons. The right side was deprived of muscular power; on this side there was a strong full pulse, while on the side not enervated there was no pulse at all. There was no difference of temperature on the two sides. The patient could not speak, but was entirely rational to his death. In reference to the pulse I will further add, that while I could scarcely feel it on the left side, it was so strong and full as to authorize me to bleed him copiously about the second day of the palsy, and as I thought with benefit.

[As no post-mortem examination was made, any speculations on the cause of the phenomena in this case would be of little value. We omit those offered by Dr. Darby.—ED. SELECT MED. LIB.]

BIBLIOGRAPHY.

Traité de Phrénologie Humaine et Comparée; accompagné d'un Magnifique Atlas en folio de 120 *Planches, contenant plus de* 600 *Sujets d'Anatomie Humaine et Comparteé d'une parfaite Execution.* Par J. Vimont, Docteur en Médecine de la Faculté de Paris, Membre Honoraire des Societés Phrenologiques de Paris et de Londres.

L'orgueil, la superstition, la crainte, ont embarrassée la connoissance de l'homme de mille préjugés que l'observation doit detruire. La religion est chargée de nous conduire dans la route du bonheur qu'elle nous prepare au-delà du temps. La philosophie doit etudier les motifs des actions de l'homme pour trouver de le rendre meilleur et plus heureux dans cette vie passagère (G. Leroy, *Lettre Philos. sur l'homme et les Animaux*). Second Edition. Bruxelles, 1836.

A Treatise on Human and Comparative Phrenology, accompanied by a Grand Atlas in folio, containing 120 *Plates, executed in the best style.* By J. Vimont, Doctor of Medicine of the Faculty of Paris, Honorary Member of the Phrenological Societies of Paris and of London. (With an Epigraph.) Second Edition. Brussels 1836, pp. 558, royal octavo.

As we are not aware that either a full review, or an analysis even, of Dr. Vimont's great work on Human and Comparative Phrenology, has yet been given by any journalist on this side of the water, we shall endeavour on the present occasion to supply this omission, making, the while, such incidental remarks as may seem to grow out of the subject before us. If, in the performance of this latter part of our task, we should press a little hard upon certain doctors of law and divinity, judges and politicians, including an ex-president, we hope to be excused on the plea of self-defence against those who, for the nonce, have taken into their heads to masquerade, in the garb of philosophy, and under their assumed characters, to elbow somewhat rudely those who differ from them in opinion.

Dr. Vimont, a physician of Caen, in Normandy, and the author of the work before us, gives, in an Introduction, the causes of his beginning the course of study and the series of observations which ended in his adoption of the doctrines of phrenology. These we shall present to our readers as briefly as possible.

In 1818, the French Institute having offered a prize for the best Memoir on the Anatomy of the Brain in the four classes of vertebral animals, Dr. Vimont resolved to apply himself to this subject of inquiry, and to submit the result of his investigations to that learned body. In 1820, he was already master of a considerable collection of anatomical facts, the more valuable, in his opinion, because they had been made with great care and fidelity. Hitherto his observations had been restricted to the anatomy of the nervous system; and although he was desirous of ascertaining at the same time the functions of this system, and felt that he had a richer collection of facts than Haller and Vicq d'Azir, he found it at the time impossible to detect the relations between the encephalic mass and its functions. "I was struck, nevertheless, continues Dr. Vimont, with the kind of conformation of brain exhibited by certain birds and quadrupeds. I may cite, for instance, the migratory birds, sixty of the brains of which were in my possession, and those of carnivorous quadrupeds which I had studied with still more care, and which I preserved in spirits of wine. It was impossible for me to believe that with such numerous varieties of organization there should not be connected

special faculties; but how to ascertain these faculties, unless, before all, I were to make a long study of the manners and habits of animals. I began, accordingly, to read with ardour the most celebrated works on the subject, and in order to judge of the accuracy of the authors, I determined to raise a great number of animals, and to study their manners, to note their most remarkable ways, and to compare my own observations with those made by these illustrious men." Pliny and Buffon were read; the first with a feeling of admiration at the prodigious extent of mind displayed in his Natural History, enriched as it was by the accumulation of facts by a still greater genius,—Aristotle. Buffon disappointed Dr. Vimont, who saw in him great beauty of style, but who felt that he was reading the production of a poet rather than that of a naturalist. This is, we believe, the verdict of impartial judges generally on the merits of Buffon. Linnæus gave more satisfaction to our author, by the greater exactness of his anatomical descriptions, whereby he marked out the course, following which the cultivators of the natural sciences have been most successful. Reference is next made, in terms of approbation, to two authors who are not sufficiently known, viz. George Leroy and Dupont de Nemours.

Dr. Vimont had not at this time any knowledge of the works of Dr. Gall, and he little believed, then, that they would furnish him with the dominant idea for the direction of his numerous researches. All that he had heard and read was calculated to exhibit Gall in the light of a charlatan, and to deter him from paying any attention to the labours of this celebrated man. *Still, however, he was not willing to condemn him without hearing him.* This commendable resolution, and yet one of common sense and common justice, might he imitated advantageously by many of our pseudo-critics, D.D.'s and L.L.D.'s, and even sundry M.D.'s, teachers and lecturers, and authors of lectures we wot of. But what was the result of Dr. Vimont's impartial inquiry? "No sooner had I read his (Gall's) works," say Dr. V., "than I saw at once that I had made acquaintance with a man removed above his fellowmen; one of those whom envy is always eager to thrust aside from the position to which they are called by their genius, and against whom she employs the weapons of cowardice and hypocrisy. The qualities which seemed to me to render Gall conspicuous were extensive cerebral capacity, great penetration, good sense, and varied acquirements. The indifference which I at first had entertained for his writings, was soon converted into a feeling of profound veneration." But this conversion did not make Dr. Vimont a blind follower. Continuing a course of independent observations and experiments, he discovered that although Gall had opened the true road, and had made great advances in it, yet that he had not marked it out with all the requisite distinctness for future travellers. It is in the department of comparative anatomy that Gall is most open to criticism.

Doctor Vimont, then, in place of contenting himself with retaining his original prejudices against Gall and phrenology at one period, or of eulogising the science and its founder without stint and limitation at another, set about supplying the deficiencies which he believed to exist in both; whilst he took no pains to conceal the fact, that through them he had been placed in the true path both of cerebral physiology and of mental philosophy. He was not satisfied with giving merely a plausible statement of phrenology, and then introducing exceptions and special pleadings in the form of an alleged refutation of the science—a refutation, the

fallacy and absurdity of which had been already fully exposed by Gall himself. With the delicate tact of his nation for perceiving the ridiculous, he could not think of displaying such ill-timed pleasantry as to elicit from the dignitaries of the church, doctors of the school of law, popular members of the Chamber of Deputies, and some flash *literateurs*, testimonials in favor of certain anatomical and physiological exceptions. Even if he had been so inconsiderate as to seduce these persons to give publicity to their own ignorance, the Parisian press would soon have shown the absurdity of a set of men erecting themselves as either judges or umpires on a scientific question, the very elements of which they never learned.

It was reserved for an anti-phrenologist in our own country to be instrumental in inducing such a display of absurdity. The exhibition is certainly a novel one, in this nineteenth century, and in the United States of America—that of a scientific question being determined by votes, without any reference to the qualifications of the voters.* But of this more anon. We continue for the present our account of the steps pursued by the French author, in order to arrive at a knowledge of the truth.

In 1827, nine years from the time when he began his studies and observations on the brain and nervous system generally of animals, and on their habits and manners. Dr. Vimont sent to the institute a Memoir for the prize of physiology, in which he introduced a portion of his numerous anatomical and physiological investigations. This Memoir, of which honourable mention was made, was accompanied by twenty-five hundred heads belonging to animals of different classes, orders, genera, and species: fifteen hundred of which were those of animals whose habits were perfectly known to him. In addition, he sent also, moulded after the originals, four hundred copies of brains in wax, and an atlas of more than three hundred specimens of the cerebral system, and of its bony case, represented with the greatest fidelity.

In the prosecution of his experimental inquiries, Dr. Vimont, as already stated, brought up a large number of animals, whose dominant faculties he noted daily. The tribes of dogs and cats furnished him with a great many observations. He availed himself, at the same time, of those which were contributed by reflecting and truth-loving men; and conversed much and often with hunters and others, who, by their situation, were enabled to note the most remarkable traits of animals. By arranging and comparing these observations, Dr Vimont was put in the route of what he justly believes to be true experimental physiology. We have not here the narrow limits marked out by the scalpel; but the wider and more philosophical domain of the mental acts of the cerebral system of animals—acts determined and appreciated in a truly physiological condition of the organs—very different from that painful and convulsive state during vivisection, in which they are not cognizable.

All this must seem to be a very needless trouble, if not a very absurd course of proceeding to the metaphysician, who, sitting in his closet, writes from his imagination of the differences between man and animals, and talks of the reason which is characteristic of the former, and instinct of the latter. If, on the other hand, the course of experimental inquiry pursued by Dr. Vimont, and advocated

* See the commendatory notices appended to the second edition of Dr. Sewall's two Lectures on Phrenology. Boston, 1839.

and began by Gall, is admitted to be the true one, that alone by which we can attain a knowledge of the various instinctive feelings and limited intellectual combinations of animals, it must be speedily evident that a similar process of observation is the right one to guide us in our study of man's mixed nature. It was not until 1825 that Dr. Vimont began the study of the psychological manifestations of man, and applied himself assiduously to test the value of the numerous facts collected in the works of Gall. In 1827, our author for the first time heard Gall lecture at the Atheneum, in Paris. In 1829, Gall being then dead, Dr. Vimont gave a course of lectures on human and comparative phrenology, which was well received, and elicited expressions of pleasure from men of intelligence who were his auditors. He subsequently went to London with the view of acquiring a knowledge of the language, the better to enable him to ascertain the state of the physiology of the brain in Great Britain. When there, he read carefully all the numbers then published of the Phrenological Journal, and also the volume of the Phrenological Transactions.

Having placed before our readers the grounds on which they may justifiably give their attention to Dr. Vimont, we proceed, next, to indicate the nature of his testimony, which they will find is not given at random, nor from tradition or hearsay, but is the result of his own carefully and long conducted observations. He was conversant with physiology, as it is usually taught in the schools, and was master of the common literature of his profession, when he began to devote himself more especially to the study of the anatomy and physiology of the brain. In this latter he spent no less than nine years of his life, noting anatomical facts, observing and comparing mental phenomena, and the relation between the latter and the former—and with what results? A full confirmation of the doctrines of phrenology, and the distinction of being called charlatan and ignoramus by men in other professions who never gave as many hours to the subject on which they complacently dogmatise as he did years; by men, in fine, who scarcely know the difference between cranium and cerebrum, or between the latter and its meninges, and who probably never carried the study of mental philosophy beyond the reading of a few chapters of Locke and Stewart, and the committing to memory a few definitions of terms, which, after all, are not the representatives or exponents of either man's intellectual or moral faculties or nature.

Dr. Vimont devotes the first chapter of his work to some general considerations on the study of the functions, in which, after adducing some of the various speculations on the part of the brain which was supposed to be the common centre of mental action, he shows that Bonnet had, sixty years before Gall, distinctly stated the plurality of cerebral organs, and that they are destined for the manifestations of feeling and intellect.

The second chapter is on the processes employed by physicians and naturalists to appreciate the extent of the intellectual faculties of man and animals. Those of Camper, Daubenton, Cuvier, and Soemmerring, are noticed by Dr. Vimont, who gives a decided preference over all of them to the method adopted by Gall. This last, as the reader knows, consists in a careful examination of the entire form of the head, and of each of its several parts. "*By this means we are able*," says Dr. Vimont, "*with some exceptions to be afterwards made known, to appreciate the development, and consequently the action of the organs of the intellectual and affective faculties of both man and animals.*" This is the part of phrenology to

which the term craniology or cranioscopy has been applied, and which certain young misses, collegiate smatterers, and even grave pundits, have chosen to regard as phrenology itself, and as the beginning and end of a study of the several faculties of the mind, as well as of their determinate range and combined or balanced action. As his work is intended both for the general and professional reader, Dr. Vimont enters into very full preliminary details respecting the membranous and bony envelopes of the brain of man, and of the vertebral animals in general. He passes in review the hairy scalp and the cranium; and he describes minutely the several bones of which this latter consists. Of the scalp he says, that in man it is so accurately fitted to the cranium, and of such a thickness, as to present no obstacle to our ascertaining the form of the head from which the hair has been removed. In some cases, however, as in idiots and in athletic subjects, it is so thick as to prevent our determining the volume of the cranium by simple inspection of the skin. Pressure by the fingers on the head will apprize us of the modification from this cause. Sometimes there is a fulness and laxity of the cellular tissue between the skin and skull, particularly near the orbits, which might impose upon the eye were we to trust to it alone, Here, as in the former case, a firm touch and some traction of the skin will enable us to detect the fallacy.

On the subject of the cranium, Dr. Vimont remarks, that man, of all vertebral animals, exhibits the greatest development of its anterior region. He investigates the crania of man, of quadrupeds and of birds, and illustrates and explains his text by a great number of engravings, for the accuracy of which he vouches. The edition now before us is a Brussels one; pirated, and therefore not to be so fully relied on, in regard to the engravings, as that published in Paris under the immediate supervision of the author himself. Even with this drawback, the plates of the former are calculated to command attention, and to give us a high opinion of the untiring industry of the author. Dr. Vimont examines the skull under several points of view. First, the upper part or arch, or vault; secondly, the lower part or base; and, thirdly, of sections made vertically. When speaking of the two tables of the skull he mentions their separation, at times, at the anterior region of the vault constituting the frontal sinus; and he points out the obstacle which this presents, when it is of any extent, to our ascertaining with precision the development of the cerebral organs situated in this region, from the appearance of the external surface of the cranium. No such difficulty exists respecting other parts of this bony case; "So that, with the exception of some morbid states to be noticed hereafter, we can have an accurate idea of the volume of the region of the brain which it covers by a simple inspection of its external table, the internal table being perfectly parallel, and the degree of elevation of the one corresponding strictly with that of the other." It is not meant by this assertion, that the minuter divisions made by the convolutions of the brain are indicated by the external configuration of the cranium. This is prevented by the thickness and firmness of the dura mater in the human subject, and by the thickness of the diploe between the two plates of the skull. "But it is not the less true," continues Dr. Vimont, "that when a portion of the cranium is developed, the portion of brain corresponding with it is also developed; and this is what the phrenologists understand by the relation between the development of the external table and that of the brain."

The base of the cranium in the human subject offers, according to our author, three distinct regions; viz. the anterior, middle, and posterior. But it is by a vertical section of the skull of both man and animals that we are able to see at once, 1st, the extent and figure of the cranial cavity; 2d, the various degrees of thickness of the sides of the skull, from the root of the nose to the termination of the occipital bone, and consequently the greater or less separation of the frontal laminæ constituting the sinus at this region; 3d, the depth of the cavity which indicates a proportionate development of the cerebral parts lodged in its sides.

The vertical section of the cranium of the human subject is of an ovoid figure, having more extension behind than it has before. The two laminæ which form it are, inclusive of their intermediate spungy tissue, about two lines, or the sixth of an inch in thickness. The portion of these plates which corresponds to the inferior region of the frontal bone, and that in which the occipital crest is met with, are the thickest. That answering to the cerebellum is the thinnest, not being more than half a line through.

Here we have the expression of a fact of general occurrence, just as we would state any other anatomical fact, without supposing that the accuracy of the proposition could be impeached by pointing out a morbid state of the part, and that the occurrence of the latter was proof conclusive against the former. As well might the increased thickness of the skin in elephantiases be adduced in opposition to the fact of its general and average state, as the instance of thick skulls brought by Dr. Sewall, to show that there is no average standard of thickness of the human cranium. The copies which he gives in his lectures were of skulls procured, with one exception, from the museum of a friend (Dr. Smith of Baltimore), who had these precisely because they were exceptions to the common standard: they were pathological, not simple anatomical specimens; and Dr. Sewall travelled from the record, in introducing them to confirm his negative position. Whether it be an evidence of that remote sympathy which one sees every now and then without being able to account for it we cannot pretend to say; but it would seem that the learned gentlemen who certify to Dr. S.'s triumphant philosophy, have an evident leaning to the anatomy illustrated by these thick skulls, in preference to that which is taught, in all the works on the subject by the current and general examples from the healthy and thinner skulls. It would hardly be a greater deviation from anatomical standard, and the rules of logic, if Dr. Sewall were to procure some fractured skulls, and exhibit them as proof that the common division of the bones of the cranium by sutures was inaccurate, and its retention empirical. We give him this hint very cheerfully, which he may turn to account for the third edition of his lectures. The certifiers in his favour will doubtless be as eager in the advocacy, then, of cracked skulls as they now are of that of thick ones, in order to put down the heresy and absurdities of phrenology. The argument would be just as fair and valid in the former as it is in the latter case.

Dr. Vimont enters into a description also of the vault, base, and vertical section of the skulls of the vertebral animals in general. In the following chapter we have a comparative account of the bones which enter into the construction of the cranium in man and other animals, and a designation in that of the former, of the prominences and processes of the bones which are liable to deceive the student

in his craniological inquiries. The details on this subject are ample, and possess, in an anatomico-physiological point of view, great interest, which is increased by the varied pictorial illustrations of the atlas. They will be found to have a far higher value, scientifically, than the superficial and inaccurate summary given in Dr. Sewall's two lectures; and if read and studied by his *learned* certifiers these gentlemen would then see that they had passed the *pons asini* of phrenology, and would feel some compunction at the self-complacency with which they had been induced to certify to erroneous concluding postulata, before they had acquired a knowledge of even the elements of the science.

Among some of the anatomical axioms with which Dr. Vimont concludes the sixth chapter of his work, are the following:

The form of the cranium of the vertebral animals varies wonderfully in volume according to the classes, orders, genera, and species. Each species has a type peculiar to itself, and which prevents our confounding it with any other. We find, however, great individual differences in volume; differences which explain those of the extent of action of the nervous system in the members of the species.

The form of the cranium being given, it is easy to ascertain by its exterior that of the encephalon, with the exception of some diseased states, and the presence of the frontal sinus in the adult man and in some species of animals.

Man has, of all the vertebral animals, the anterior portion of the cranium the most fully developed. After him come the elephant, the ourang-outang, the dog, hare, and monkey. Parroquets, the species of the genus *corvus*, and geese, have this region tolerably developed. The turkey, the barn-yard fowl, and several species of water-fowls are among birds those which exhibit it in the least degree of development.

The complete development of the cranium only takes place at an epoch remote from birth; its growth is generally more rapid in animals than in man, in whom it is not completed until his twenty-fifth and even sometimes thirtieth year.

The internal surface of the cranium presents in a great number of classes, orders, and genera, depressions corresponding with the reliefs or convolutions of the brain.

Birds, of all the vertebral animals, are those the external surface of the crania of which most closely corresponds with their cerebral structure: this is owing to the thinness of the plates of the cranium and to their perfect parallelism. After birds came the *rodentia*, then the small *carnivora*.

Birds present also the greatest symmetry in the form of their cranium. The higher we rise in the scale the less this symmetry is met with; and in man it is least evident of all.

Age brings about notable changes by diminishing the size of the cranium, and in its thickness and density.

In chapter eight, Dr. Vimont describes the brain of the human subject, and of quadrupeds and birds, in the most important anatomical points of view. Without pretending to repeat, or even to give a summary of his description, it will be sufficient to indicate an important inference, deduced from the vast collection of facts which he had observed, and which, by the way, is in harmony with those laid down by many distinguished physiologists in addition to Gall and Spurzheim. It is, says Dr. Vimont, a general law of nature, that the more extended and complex

he functional acts, the more complicated are the parts designed for their performance. The brain is an example of the truth of this proposition. Man, of all animals, has a brain of the most complicated structure ; then, in the order enumerated, are quadrupeds, birds, reptiles, fishes, and insects.

The ninth chapter is a commentary on the anatomical propositions of Gall and Spurzheim, and a critique on those of Serres.

In the following chapter the author presents to our notice the successive development of the cerebro-spinal system of man and vertebral animals, and the changes which are induced by age in this system, and consequently in the functions dependent on it.

The rapid growth of the brain in the first few months after birth corresponds with that of the cranium in the same period. More especially are these changes evident in the parts situated at the base of the cranium : those in fact which are in direct anatomical connexion with the senses, and some of the nutritive viscera and the locomotive organs ; and also those at the inferior and anterior part of the frontal bone, which are the organs of those perceptive faculties that are soon to be called into activity in the child. In the period between the first dentition and the seventh year, the increase of fulness and consistence of the cerbro-spinal system of the young subject is most manifest. It is at this time, also, that the intellectual and affective faculties exhibit more distinct features ; and a close observer may already distinguish those which will characterize the future man.

There is an obvious but less rapid augmentation in the size and consistence of the cerebro-spinal system of youth in the period between the seventh and fifteenth year from birth. With a remarkable development of the posterior region of the encephalon and of the corresponding portion of cranium at the expiration of this period, which is the epoch of puberty, there is also a manifestation of new feelings ; notably of those which prompt to sexual intercourse, and at the same time a more decided expression of countenance and manner than before. The intellectual faculties, though far from having acquired the power and latitude of range which they manifest at a later period, indicate with tolerable distinctness the extent of which they are susceptible in manhood.

It is only, continues Dr. Vimont, in the period between the eighteenth and fortieth year of his age that the cerebro-spinal system in man attains its entire development ; it is also during this interval that the lineaments of the intellectual and moral being are distinctly defined, and that the affective faculties in particular have most power and duration.

After forty years of age the system in question begins to lose its activity, as it does to be gradually diminished in volume, at the same time that it is increased in density. There are of course great differences among individuals as to the readiness with which these changes take place, and the mental faculties manifest a decline. On this text Dr. Vimont gives a short dissertation, which would go to show that progression in the sciences, and in human knowledge generally, has been sadly retarded by the undue ascendancy which persons advanced in life have acquired by their being placed or retained at the head of literary and scientific institutions. " Where is the man of information and sincerity who will not agree with us that the ideas and acquirements of those who have passed the sixtieth year of their age always turn in the same circle, that all their actions are purely mechanical and in routine." In making the application of this

fact to the state of mind of those who oppose phrenology, we do not mean to inquire into the age of the certifiers of Dr. Sewall's anatomy and philosophy; but we may venture, without much risk of error to say, that these gentlemen are too far advanced in life to begin a series of observations and inquiries in a new science, and to carry out the numerous and diversified inductions from these, which are either in opposition to the creed of their earlier years, or are essentially foreign to their earlier studies and associations. Unacquainted with anatomy and physiology, how can they know whether Dr. Sewall's lectures are penned in ignorance, or with superficial knowledge, or intention to mislead? Ignorant, also, of the innate faculties of the mind, they never having studied man in reference to this important truth, nor noted the connexion between organization and function, between matter and mind, how can they be supposed, either to be able to appreciate the doctrines of phrenology or to begin the study of them at this time? There was indeed a course which age in its wisdom is commonly supposed to be able to set to youth, and by which it rebukes youthful rashness and impetuosity: it is in a prudent forbearance to give an opinion until all the facts are present and studied, and compared during a suitable time and with becoming industry.

It is an interesting comparison, one full of instruction, that between the state of the brain of old persons, marked by its decay, its subjection to paralysis, congestion, and apoplexy; and of very young ones, marked by the increase of its growth, its vascularity, active circulation and susceptibility; and then for us to note the diminution and feebleness of the faculties, the want of common sensibility, the difficulty of creating new impressions, or of stirring up the affections and exercising the intellect in the former, in contrast with the agitation, eagerness for novelty, ardour of feeling, and quickness of intellect in the latter. All this belongs to the physiology of observation—it is part of the study of the philosophy of mind, the truth of which cannot be either rejected or maintained by closet reveries and metaphysical jargon. What are we to think, then, of the piety of those persons, who can see nought in the study of the functions of the brain but "a subtle form of materialism and an auxiliary to infidelity?" for in these terms is phrenology spoken of by a president of a college, a D.D., whose name we forbear to repeat here, although he has gratuitously exposed his own ignorance and illiberality in the expression of his opinion of Dr. Sewall's lectures. It would comport admirably with this reverend doctor's metaphysical abstractions, and his idea of physiology, if a lecturer were to attempt to prove that the structure and organization of the eye had nothing to do with optics and vision, and that the function of digestion could be very well understood without the least reference to the stomach. And yet, neither of these propositions is a whit more absurd, and more adverse to inductive philosophy, than that which this reverend president of a college, save the mark! would inculcate, viz. a study of the faculties of the mind without taking the brain into the account. If orthodoxy and piety are to be measured in the inverse proportion of a knowledge of the circumstances under which our mental faculties originate and are modified and educated, either to good or to evil, then indeed should the reverend doctor be sought after as the guardian of faith and the fount of morality. Dulness would then be the presiding deity, and ought to be invoked in the words of the poet:

> "O ever gracious to perplex'd mankind!
> Still spread a healing mist before the mind;
> And lest we err by wit's wild dancing light,
> Secure us kindly in our native night."

Doctor Vimont has studied the progressive growth of the cerebro-spinal system of animals from birth to maturity, as he had in the case of this system in man.

The anthor devotes a chapter 1st, to diseased crania. 2d, To alterations of the cerebro-spinal system and its membranes. He considers the diseases of the cranium as of three kinds. 1st, Malformation or vice in the configuration: 2d, An increase or diminution of the calcarious matter entering into the composition of the lines of the cranium: and 3d, An unusual number of the bones of which it is formed.

Of the first, or vices of configuration, the two chief varieties are, an atrophy or deficient growth of the cranium, coinciding with a similar state of the cerebral hemispheres, and an opposite condition of things in which there is excessive enlargement of the cranium, following that of the contained brain.

The defective growth of the cranium may amount to an almost entire absence of this part, as in acephalous fœtuses, or to a deficient development, as in congenital idiots. In its morbid development in chronic hydrocephalus, by which the ventricles are gradually distended with fluid, and the convolutions effaced, so that the brain assumes the appearance of a large membrane of a globular figure filled with fluid, the cranium follows the development of the brain on which it seems to be moulded; and in some cases the size of the head is very great. Dr. Vimont mentions the case of a young man eighteen years of age, whom we have ourselves seen, at the Hospice de Perfectionement, whose head measured two feet nine inches in circumference. Spurzheim describes one three feet in the same direction.

These abnormal variations, in addition to the illustrations which they furnish of the functions of the brain, show also how closely and accurately the growth and configuration of the skull are dependent on and coincident with these states of its contained organs.

Dr. Vimont, under the present head of abnormal configuration of the cranium, refers to the flat heads of the Caribs, the round heads of the Turks, and to other national peculiarities in this respect, which we have not room to introduce here.

The bones of a cranium may exhibit different degrees of density or thickness without any change in the configuration externally. This state may be either natural, the effect of certain general affections which influence the nutrition of the whole osseous system, or the consequence of disorders of the brain, and particularly of those marked by derangement of the intellectual faculties, or insanity.

In some individuals of an athletic make, in whom the limbs including the hands are large, and the bones prominent, the cranium is, also, Dr. Vimont thinks, notably developed, owing, in part, to its great thickness. This was the case with the skull of Dr. Gall himself. But, however the observer may be misled from such a cause, in the opinion which he might entertain of the size of the brain beneath, the configuration and general proportions of the former, are still indicative of the proportionate developments of the latter. A large frontal region, for example, will not cover a deficient intellectual organ; although it might indicate a larger endowment of these than is actually possessed. Age causes increase of thickness and of density of the skull, as do chronic diseases of the brain and of its membranes. Rickets, scurvy, and syphilis also modify the state of this bony case. Dr. Vimont states that he has in his possession the skull of a young man

who died from pulmonary consumption of three years' duration, which towards the conclusion assumed a scorbutic character. The entire cranium does not weigh more than ten ounces: the external table is not more than a quarter of a line thick, and at some points had been completely absorbed. Syphilis, peculiarly destructive in its advanced stage to the osseous system, attacks, of course, at times, the cranium, producing great inequality of its surface, riddling its tables as it were, and in parts increasing the hardness and thickness of its bones.

The accounts which some of the older anatomists have related of ossified brain are fabulous; and had their origin in confounding exostosis, or bony tumour projecting from the inner surface of the skull with the brain itself.

Dr. Vimont thinks that alterations in the osseous structure of the cranium of animals are of rare occurrence, although their existence, on occasions, is not denied.

The second section of this chapter takes cognisance *of the alterations of the cerebro-spinal nervous system and of its membranes.*

Of these we may notice the congenital deficiency of cerebral structure in idiots; the convolutions of whose brains are less distinct than in persons well organised, and to a certain extent are manifestly wanting.

The atrophy, or loss, by organic change, of a hemisphere, is recorded by more than one writer. The fact of the cerebral organs being double, as in the external senses, explains, why in the former, as in the latter case, injury or destruction of the organ of one side is not incompatible with the display of the specific function by that on the other.

The only congenital deficiency of organization seen in the cerebellum, is a diminution of the size and number of its lamellæ.

The accidental disorders of the cerebral system are very numerous. Room can only be found by Dr. Vimont for the specification of a few of them; for it is well known to the medical reader that volumes have been written on this subject, one of the most important and fruitful in pathological anatomy. In proof of the connexion between the organization of the brain and its functions, or the faculties of the mind, may be cited the effects of apoplexy. But it is also known, that consequent on an attack of this kind the intellect is sometimes only partially abolished, a result alone explicable on the admission of a plurality of organs of the brain, destined for a plurality of specific functions. If the brain were a unit, an injury of any one part of it would unfit it for the discharge of its functions, and of course for the manifestation of even a single intellectual faculty. But we find persons who have suffered from an apoplectic stroke, recover their intellect so as to appreciate justly the circumstances in which they are placed, and reason on them nearly as before, but who have lost, some the memory of proper names, and others of language in general. Mr. Hood gives the history of a patient sixty-two years of age, in whom there was gradually manifested an inability to make himself understood by those around him. He had lost the name of every object in nature; but he retained his knowledge of facts, was attentive to what transpired in his presence, recognised his friends and acquaintances as readily as ever; but their names, those of his wife and family, and even his own, were entirely forgotten. His judgment and reasoning powers generally appeared to be as good as before. Although he could not use words with any definite application, he was able to articulate distinctly, and to repeat names which he heard; but before he could

repeat them a third time they were lost as completely as if he had never pronounced them. He seized readily the meaning of a passage read to him, but he could not read it himself. His convalescence was marked by the acquisition of some general terms to which he gave a very varied application. Time and space, for instance, he designated under the general term of time. On being questioned one day about his age, he showed that he understood the question, but he was unable to give the answer. When his wife said that he was sixty years of age, he assented, and asked what time it was? Mr. Hood, not distinctly knowing what he meant, replied by telling the hour of the day; but the invalid made him understand that this was not the answer he wanted. Mr. Hood then gave the day of the week; but still without satisfying him. Having at last mentioned the day of the month, he intimated that this was the information he wanted, in order to enable him to reply precisely to the question asked by Mr. Hood respecting his age, which, he said, was sixty years and five days or times as he called it.

The patient in whom this infirmity was first manifested on the 2d September, 1822, entirely recovered from it in the month of December of the same year. But on the 10th of January following, he became suddenly paralytic on the left side; on the 17th had an attack of apoplexy, and died on the 21st of the month. An autopsic examination showed that there was an alteration of the cerebral substance of the left hemisphere and that, at the part where it rests on the middle of the orbitar plate there were two small cysts lodged in a depression, which seemed to extend from this point of the brain to the ventricle. The right hemisphere did not exhibit any thing extraordinary. (*Edinb. Phren. Journ.*, Vol. III.)

The portion of brain lying over the orbitar plate is that which was taught by Gall, on the strength of numerous observations made on healthy persons, to be the organ of language. Dr. Boillaud relates three cases of inability of speech suddenly coming on and continuing some time, but without the powers of perception and judgment being affected. There are, Dr. B. thinks, evidences of palsy of the organ of speech, without any accompanying palsy of other parts of the brain. This gentleman has collected the history of several other cases related by different physicians, the subjects of which had been seized with inability to speak, and in whom very perceptible structural changes were found at the lower lobule, near the anterior portion of the hemisphere. There was no paralysis of the tongue, however, or inability to give it all the different and various movements, required in vocal and articulate utterance.

Sanguineous effusions in the cerebellum have been accompanied, we will not say universally, but in a large number of cases, with erection, and ejaculation of semen; and chronic irritation and change of the part noticed in persons who during life had manifested excessive, and even morbid venereal propensity. Similar coincidences have been noted in animals subjected to experiments by strangulation.

The atrophy of certain parts of the brain has been followed by loss of function: and the suspension of function by destruction of the external organ or sense, has brought with it a decay of the cerebral parts corresponding. Loss of vision, for example, is the consequence at times of lesion and wasting of the anterior corpora quadrigemina; whilst, on the other hand, a wound of the eye, or inflammation by which its structure is altered, and the images of objects can no longer

be impressed on the retina, will be followed after a time by an obvious diminution of the anterior corpora quadrigemina. A change of this nature has been effected in animals by putting out their eyes. The inferences from these facts are, first, the relation between certain parts (organs) of the brain and particular functions; and, secondly, the effect of exercise in preserving the former of their requisite fulness and density of structure.

Various morbid states of the brain are noticed by Dr. Vimont, but without any novelty or special application.

Mental Disorders, to which the twelfth chapter is dedicated, is too extensive a theme for us to engage in at this time. Dr. Vimont points out the misleading influence of the systems of Locke and Condillac, to the standard and terminology of which medical writers attempted to adapt their descriptions of insanity; as when they would classify the varieties of this disease as so many disorders judgment, or of imagination, memory, &c. Hence the strange contradictions into which some authors have been led by speaking, for example, of reasoning madness, which would be equivalent to saying that the patient is mad, and yet he is not mad. Well may we doubt that these persons were on the right path, when, in addition to such metaphysical mysticism, they attempted to find the causes of insanity in the colour of the hair, and of the eyes, and skin, and in the temperament. Strange, indeed, that men calling themselves observers, could not see that madness existed with every variety of the hair, eyes, and skin, and of temperament; and that it was to the brain, the material centre of all mental relations, to which they should look. Dr. Vimont may be thought to use language somewhat harsh, though it approaches unhappily too near the truth, when he says, "I am not afraid to assert publicly, after having read the treatises published up to this time on the disorders of the intellectual faculties, that they all seem to me to have been written by gossips, crones, and nurses; so much do they abound in contradictions, and in a jumble of popular notions and prejudices, characterestic of credulity and ignorance." From this general censure an exception ought to be made in favour of the work on Mental Derangement by Dr. Andrew Combe, in which he has, to a certain extent, carried out the plan recommended by Dr. Vimont, viz., to observe the connexion between the mental disorder and the lesions of the parts on which it depends;—and to note all those disorders of the mind of a general nature, dependent upon a want of energy or of excessive excitement of the cerebral nervous system. In the first class we should find idiots or persons of feeble intellect, who sometimes have a good conformation of head; and, in the second, monomaniacs, whose cerebral organs, without being greatly developed, may be morbidly excited, and cause derangement of their corresponding faculties. The author (Dr. V.) carries out his inquiries on these points under the heads of *idiotism*, *monomania*, and *hypochondriasis*.

Here we pause, and suspend for a while any further analysis of Dr. Vimont's work on Human and Comparative Phrenology, although we have only gone through a part, and that not the larger of the two. It will have been seen by the reader, that although the author fully believes in the phrenological doctrines, viz., the plurality and distinct character of the affective and intellectual faculties, and the correspondence between these and cerebral organization, and the manifestation of this latter by the configuration of the external surface of the cranium, yet he is not a servile follower of Gall and Spurzheim, or of Mr. Combe and others.

Dr. V. acts the part of a true philosopher: he has assured himself that a system is a true one, and he does not feel inclined to reject or discredit it, because all the details recorded by his predecessors are not as accurate as could be desired. He affirms the truth and value of cranioscopy; even though there be frontal sinuses, sometimes thickened crania, and sometimes thick muscles covering a portion of the cranium. He affirms and demonstrates the harmony between the cranioscopical observations made on man and those on animals; not grounding his belief on the sizes and weights of the human brain relatively with those of the brain of animals, but upon the development of the latter in particular regions. We may, hereafter, have an opportunity of showing, that although he differs from other phrenologists in respect to the functions of some of the cerebral organs, he is in accordance with them respecting the location of the classes and orders—those for the affective and those for the intellectual faculties—and in believing that the only true basis of a system of mental philosophy which shall be applicable to education, jurisprudence, and the treatment of insanity, is the physiology of the brain as indicated and taught by phrenology.

All this may seem to be rank quackery to the worthy certifiers of the wisdom and power of the *ad captandum*, superficial, and unfair arguments and expositions contained in Dr. Sewall's two lectures. But if they should look a little into the subject they would see that it partakes singularly of the aspect of a science, in its large array of facts, and the numerous and harmonious inferences from these for the guidance of man in his individual capacity, and for the maintenance of his varied and important social relations. If the legal gentlemen who have committed themselves by a declaration of opinion, had paused a little, and not allowed their prejudices to bind them, like a retaining fee, to the advocacy of a singularly shallow plea, they would have found that the evidence is all on the other side,—evidence of a distinct positive kind, in singular contrast with the gossiping, hearsay, and second-hand opinions of the metaphysical school. Teachers, heads of colleges, might, seeing how utterly barren has been their favourite philosophy through all time down to the present, look with a little more patience on a scheme at reform, which could hardly be carried into effect without some improvement resulting. Certain doctors of divinity and theologians might be counselled not to make their own ignorance the standard of science, nor their prejudices the test of other people's orthodoxy; but rather to learn a little more of the wonderful mechanism and harmony of the works of the Creator, about whose wisdom in the adaptation of means to ends they sometimes discourse. More especially useful to them in their vocation, and as a check to hasty and intolerant judgment of the effect and tendency of what they do not at once understand, would be the study of physiology, and of natural science in general. With a knowledge of the commonest elements of anatomy and physiology, they would hardly commit themselves, as they every now and then do, by the utterance of such an absurdity as the accusation against phrenology of its fostering materialism. They are shocked, pious souls! at the idea of the brain being the material instrument of mind, and of its consisting of many organs on which depend the display of the mental faculties.

We would just remind such objectors that their own creed of philosophy partakes fully as much of materialism as phrenology does. They may indeed discard the brain as useless; but they will not venture to reject also the five senses.

If they should ever descant on the knowledge of the colours, forms, distances of objects, on the beauties of the landscape, and the charms of art in statuary and painting, what are all these but phenomena resulting from the impression of matter on matter, of inanimate matter on animate matter. Is the mechanism of the eye spiritual or material? Could the mind perceive an external object unless the image of the latter were impressed on the retina, which is the termination of the optic nerve; both of them portions of matter? But the process does not end here: the material chain, of which one end is the eye, is connected at the other end with a certain portion of brain called the anterior *corpora quadrigemina*, the entireness of which is just as necessary for vision as that of the optic nerve or of the globe of the eye. The man, therefore, who speaks of the eye seeing, or of the ear hearing, is just as much a materialist as he who speaks of the brain forming ideas of colours and forms, or of sound and harmony. Abrogate the five senses, and what would be the amount of ideas: the channels are all closed, and nothing can reach the mind, as the metaphysician would say, or the brain, as the phrenologist alleges. Each external sense has its own organic structure and mechanism, a mere modification in fact of matter: each sense depends for its display of function on a particular portion of the brain; the optic nerve with one, the auditory nerve with another, the olfactory with a third portion, and so on of the rest. These nerves and the contiguous portions of brain have specific functions, each being acted on by its particular stimulus, and by it alone. Light will stimulate the retina and optic nerve, but has no effect on the auditory nerve or the nerves of touch,—as the retina in its turn is not susceptible of the impressions which on the auditory give rise to the sensations of sound. There is yet another series of nerves, connected also with different parts of the brain, and distributed to various organs through which these latter are moved. Without the aid of these the eye would be fixed in its socket, its muscles would be powerless, and a most limited range of vision would result. A knowledge of the functions of these several nerves—respectively of the senses, and for motion—was never acquired by an observation of their texture and structure, nor by any kind of observation *à priori*. Nor, now that their functions are known, can we find any adequate explanation in differences of organization. The thing is received as an ultimate fact, nor is any physiologist adventurous enough in quixotic spiritualism, to deny that we see by means of the eye, and in virtue of the connexion of this organ with the brain; and that we hear through the ear, and on account of its connexion with the brain, merely because he cannot detect any notable differences between the optic nerve and the olfactory one, and between the two portions of the brain with which they are severally united. Even Dr. Sewall would not hesitate to teach this much physiology to the worthy presidents of the college and of the theological seminary who are so much alarmed at the materialism of phrenology. It is very true that the doctor would at the same time inculcate, and the worthy presidents would believe a materialism as positive and evident as that of the phrenologists. The difference between the two schools consists in this: Doctor Sewall and his friends would persuade us that a man can think, act, and have the affections of his nature, with the aid alone of that arrangement of matter which consists of the five senses, their nerves, and some of the minuter parts of the basis of the brain connected with these nerves. The phrenologists, on the other hand, believe that the brain was not given by the Maker in vain, but that its hemispheres perform great and important functions, in completion of those of the inferior organic apparatus just

mentioned. The organs of the brain are, they think, those of the internal senses; the eye, ear, &c., are the organs of the external senses.

We cannot say, then, of the two schools, that the one is, in its doctrine, spiritual, and the other material. Both admit the necessity of a material structure and organization for the formation of ideas, and processes of thought: but the one denies in a great measure the necessity of a brain; the other admits it, and sees in it a complicated apparatus. Dr. Sewall and his friends, certain doctors of law and divinity, and distinguished politicians, &c., are advocates of what may, for distinction's sake, be called brainless materialism, and the philosophy of the external senses alone. For ourselves, and with all becoming respect for such authority, backed as it is by an ex-president and a Judge of the Supreme Court, we still believe that the time is not yet come when a man can dispense with his brain, and walk for occasional convenience, like St. Denis, with his head under his arm.

Medical Lexicon.—*A new Dictionary of Medical Science, containing a Concise Account of the various Subjects and Terms, with a Vocabulary of Synonymes in different Languages, and Formula for various Officinal and Empirical Preparations, &c.*, second edition, with numerous modifications and additions, by Robley Dunglison, M.D., M.A.P.S., &c. Philadelphia: Lea and Blanchard, 1839. pp. 820, royal octavo.

What a capital theme for a discursive writer is a Dictionary of any science. He may, whilst professing to keep within the subject, indulge in retrospective history and criticism; in a disquisition on opinions and things, on science and credulity: he may be profound and obscure even, or playful and satirical; he may be searching in his analyses, or skim along the surface, flying off tangentwise, without any power to check him. He finds a text for any and every subject, and may riot for a season in the company of all the letters of the alphabet, and their extensive connexions and ramifications. He can change, without being charged with fickleness; and write on without cohesion and method, as Burton or Montaigne themselves have done, without being called illogical. Has he a hobby, which for the nonce he wishes to ride both for his own amusement and to astonish his readers at his dexterity, he has but to take out, *apropos des bottes*, the initial word from the Dictionary, and then discourse as he lists. Is the work before him one of the day, he may regret that with the advance of time there has not been corresponding improvement in this department of literature; and talk of the *Onomastikon* as if it were superior to all its successors. Is it a dictionary of terms and rigid definition, he will contrast its dryness with the delightful fulness, ease, and amusing prolixity and gossip of the Dictionary of Bayle and of that of Trevoux. Should the work be the contributions of many minds and many pens associated for the purpose, he has the power, impliedly, to disparage it by alluding to the wonderful labours and learning and success of a Johnson, a Webster, or a Copland, and comparing their dictionaries with those of the French Academy and of Della Crusca, and the Encyclopedia of Medicine.

But if we inquire what were the labours of the lexicographer himself, over which the reviewer or essayist thus desports himself, we learn that these have been of the most toilsome, fatiguing, and harassing description. It is easy to step lightly, and not ungracefully either, and laughing the while, over the stone steps laid at convenient intervals across the ford of a river; but the poor devils who had to wade into the stream when perhaps its waters were none of the purest, or its temperature the mildest, and bring stone after stone to be duly and firmly deposited, found no special amusement in their undertaking.

Limited choice is allowed to the compiler of a lexicon: he cannot skip over words or subjects which are distasteful, and which he believes to be of little moment, and descant on others, to which, either from their real importance or from certain associations in his own mind, he is partial. Had he the privilege of leaving out entirely this word as obsolete, that as useless, a third because

it belongs to the jargon of the cabala, and so on, his labour would be, if not easy, at any rate less repulsive. In a dictionary of literature, or of science and the arts, he must give occasionally, as he thinks, a column or two of explanation of an hypothesis, or of the speculation of some great man, which he would himself, if a free agent, dismiss with the brief but emphatic expression—"fudge!"—of the good Mr. Burchell. Sometimes it may happen that, tempted by the full disquisition on a learned trifle which he sees in an old dictionary, he transfers it to his columns as an easy 'fill up,' come what may afterwards to engage his attention and exercise his judgment. Were it in his power even to summon up separately each word to abide his decision and receive his orders, and then to be dismissed finally from his presence, he might enjoy some intervals of ease in the company of his friends, or in quiet self-communion; but, alas! the wand of Prospero could hardly give him such power. Words we are told by a certain philosopher are things. The lexicographer finds that they are neither harmless nor amusing things; but like restless and noisy spirits they come unbidden, and, in strange garbs and grotesque shapes, cross his path in the crowded street or the shaded grove, or as phantasmagoria, haunt him in the still hours of the night—one urging him to dispose of it and give it a place in column, another asking whether it has been fairly dealt with, and others again, with sundry grimaces and contortions, remonstrating against the characters they have received, and the family with which they are declared by the author to be connected.

If it be the composition and compilation of a medical lexicon which has been undertaken, how still more annoying must be the company of this kind into which its author is thrown. He cannot avert his looks from the red, yet bronzed cheek, and turbid eyes and contracted brows of Fever; nor the livid and contorted features and foaming mouth of Epilepsy; nor the inflated and disproportioned frame of Dropsy; nor can he close his ears to the wild laugh or incoherent ravings of Mania; nor to the harsh and discordant breathings of Asthma. Rheumatism, with its enlarged and inflamed, and Gout with its distorted joints, come limping and hobbling in; each disclaiming relationship with the other, and each insisting from the poor distracted author to be exhibited as different in their traits as they will be far apart in his Dictionary. Like children of the same parent, the one born in, the other out of wedlock, they hate each other with a cordiality proportionate to the nearness of common origin. Would he by a violent effort turn away from these spectres, he is met perhaps by the vacant gaze and unmeaning grin of Idiocy, and the crooked spine, large head, and painfully fair features of Scrofula. But we must, e'en whilst yet we may, dismiss the subject, lest we incur, by further dwelling on it, a portion of the supposed sufferings of the medical lexicographer.

It is not a little to the credit of Doctor Dunglison that he has not only preserved his tranquillity during the exposures which we have partially sketched, in the performance of his ardous task whilst preparing a second edition of his Medical Dictionary, but that after its completion we find him sane and sound, fresh and prepared for other and various labours. Believing that the present work is a useful, as it will be considered an acceptable, addition to the library of medical students and general practitioners, we do not care to institute either comparisons between it and works of a similar character, or a minute critical investigation of certain selected portions. It would, we doubt not, bear to be judged both in reference to its intrinsic and relative merits. That, sometimes, the physician who refers to this Dictionary may not find a term or a subject, which his studies have rendered him familar with, elucidated as fully as he could desire, or passed over with what would seem to him undue brevity, is no proof of its want of copiousness and accuracy in general. Let him multiply his references as well on common as recondite subjects; on those which a student ought soon to know the value of but which he cannot readily understand in his elementary reading, and on those others which a person of more learning and research would like to become acquainted with, and it will be found that the store is both ample and various.

In his Preface, we learn that "the author's object has not been to make the work a mere lexicon or dictionary of terms, but to afford, under each, a condensed view of its various medical relations, and thus to render the work an epitome of the existing condition of medical science."

It is but just to add, in conclusion, as illustrative of the methodical and painstaking spirit of Dr. Dunglison, the note which accompanies the Preface, and in which he says: "Some idea of the toil may be formed by the fact that, exclusive of the manifold additions and modifications in the body of the work, the index or vocabulary of synonymes at the end, consisting of more than *twenty thousand words*, was entirely written and arranged for the present edition.

Human Physiology for the Use of Elementary Schools. By CHARLES A. LEE, M.D., late Professor of Materia Medica and Medical Jurisprudence, in the University of the City of New York. "The proper study of Mankind is Man." Second edition. New York, Published by the American School Union, 128 Fulton street, 1839. pp. 336. 12mo.

THIS book of Human Physiology by Dr. Lee is in every way a pleasant one. It is a pleasure to study the subjects so lucidly treated of by the author; it is a pleasure to read that which is so well written; and it is a pleasure to look at and handle a book so well printed, and with such good paper, and so many handsome and appropriate engravings.

The American School Union, by its publication of this work, has set an example which will, we hope and believe, be generally followed by all the institutions which have education for their immediate object. By no other kind of knowledge, except that of physiology and hygiene, can we ever hope for a cessation of the numerous absurd practices by which parents ignorantly induce, and fix on their children various diseases and deformities. Death itself is too often the penalty paid for the numerous omissions and commissions of those whose duty not less than affection would make them desirous of procuring a very different result. It is hardly conceivable that a mother acquainted with the outlines of the function of digestion should think for a moment of giving, or of allowing others to give her child such trash as the crude fruits, cakes and comfits which now she so freely offers either as a bribe to quietness or as a reward for good behaviour. With even a limited knowledge of the organs of locomotion and of the structure and connexions of the spine, we cannot suppose either that parents should make or teachers sanction the use of dresses for girls in the present fashion, the effect of which is to cause so many of these young persons to be round shouldered or crooked, and at any rate stiff and unnatural in their postures and movements.

Once made aware of the conditions for the performance of mental phenomena, parents and teachers would refrain from those cruel enforcements and practices by which the brains of children and youth are either made the seat of violent disease, or thrown into a state of such irregular action and debility that their intellect in all after life is feeble and unequal in its manifestations. On these topics we have no hesitation in saying that physicians in general fall far short of their duty. They do not set themselves about a reform of numerous malpractices and glaring absurdities affecting the health of both individuals and communities, with any thing like zeal or even common resolution. The people who are beginning to be enlightened in these matters will soon ask: Is this conduct the result of ignorance or of apathy?

To the labours of Dr. Lee, and others who tread the same track, must we look for an amelioration and final reform of existing abuses in matters relating to health. This gentleman's physiology is well adapted to aid in bringing about so desirable a consummation. We might, it is true, indicate here and there some omissions, and call for a more extended hygienic application of the knowledge of functions; but with few exceptions it may be said that what is done is well done. If the critic were inclined to animadvert on certain parts of the book, he would, perhaps, express a regret that in addition to the order of vessels mentioned by Dr. Lee as constituting the absorbent system, the veins were not specified. He might also object, under the head of nutrition, to the somewhat too popular view of the use of the hump of the camel; the opinion adduced is more Arabian and oriental than physiological. We must not conclude without saying that, although Dr. Lee's physiology is written for the use of Elementry schools, it may be read with profit by youths in college, and by those who are about to begin the study of medicine.

Diseases of the Uterus; a Series of Clinical Lectures, delivered at the Hospital La Pitié: By M. Lisfranc: and edited by H. Pauly, M.D. Translated from the French by G. Henry Lodge, M.D., Fellow of the Massachusetts Medical Society; Member of the Boston Society of Medical Improvement. Boston: William D. Ticknor. 1839. pp. 401. 8vo.

The importance of the Diseases of the Uterus, the reputation of the author of these Lectures, the care manifested by the editor in collecting and arranging them, and the success of the translator in converting the original into good idiomatic English, while they furnish so many claims on the favour of the Medical reader, would, also, seem to call for an extended notice from the reviewer. We cannot but regret, therefore, our inability at this time to give even an analysis of the valuable matters of which this volume consists. A simple annunciation of its general character must suffice.

The first chapter presents us with the Surgical Anatomy of the Female Organs of Generation, designed to elucidate Diagnosis, and to simplify operations. In the second, we have a detail of the modes of examination employed to ascertain the condition of the Female Genital Organs. The directions for conducting the touch in its several varieties, vaginal, rectal and supra-pubic or hypogastric, and especially the first, are precise and minute, and must prove a great benefit to the young practitioner, as well as to those farther advanced in life who are not ashamed to avail of the means of Diagnosis, and of a guide to cure, which in the earlier period of their career had been deemed less important or unnecessary. The speculum, its mode of introduction and uses, are also described.

After this, there is a concise, yet clear account of the Diseases of the Uterus, generally; in which are exhibited their pathological anatomy, their symptoms, progress and termination, and prognosis, and then their general treatment. This last includes *bathing*, *repose*, *injections*, *fomentations*, *cataplasms within the vagina*, *irrigation*, *douches*, *enemata*, *narcotics*, *blood-letting*, local and general, *cupping*, *vesications*, *&c.*, *compression*, *drinks*, and *internal medicines;* the whole terminating with Lisfranc's general directions. Following this section, is one on the most common complications of Uterine Disease in its different stages.

A chapter on Menstruation is followed, in succession, by others on Uterine Hæmorrhage, or Menorrhagia, Leucorrhœa, and Hysteria. Hysteralgia is described in connexion with sub-inflammation, unattended by engorgement or any appreciable change in the Uterus.

Engorgement of the Uterus is the subject of a chapter in which the chief varieties of this morbid state of the organ are described. After this comes one on Erythema and Eruptions, Ulcers and Vegetations on the neck of the Uterus; which in its turn is succeeded by a chapter on Amputation of the neck of the Uterus, and extirpation of the entire organ. Foreign bodies attached to the Uterus, or developed in its vicinity—and remarks upon Displacements of the Uterus and upon Pessaries, conclude this original and useful work.

If we are to suppose that the time is past, or at least is fast passing away, when a physician can stand excusable to his patient and in his own eyes, or excused by his professional brethren, for pretending to treat protracted diseases of the Uterus, without having made the requisite examination by the touch, and if need be by the speculum, or for dismissing a case of prolapsed or dependent and enlarged Uterus, by merely introducing a pessary; we can hardly doubt the avidity with which a work like the present will be sought after: one in which all the organic changes connected with or caused by menorrhagia, leucorrhœa, engorgement, ulceration, and cancer of the uterus, are specified in such a way as to enable the attentive reader to detect similar alterations, and to shape his therapeutic measures accordingly. The information is spread abroad, and it is the bounden duty of every medical man to acquire it; nor can any one evade his responsibility on the plea of his not being a surgeon or an accoucheur. The case which at an early stage, properly treated, would have soon been cured, may, by the time it is handed over to a surgeon or accoucheur, be beyond the reach of art.

Intermarriage; or the Mode in which, and the Causes why, Beauty, Health, and Intellect, result from certain Unions; and Deformity, Disease, and Insanity, from others, &c. With Eight Illustrative Drawings. By ALEXANDER WALKER. J. & H. G. Langley, 57 Chatham street, New York. 1839. pp. 384. 12mo.

HAVING already expressed a favourable opinion of this work,* whilst intimating our intention of probably publishing it in the Library, we have only to add now that the American edition by the Messrs. Langley is exceedingly well 'got up,' and is highly creditable to their good taste. To our eyes its appearance, hardly excepting the plates, eight in number, is more pleasing than even the English edition. The subject on which Mr. Walker writes is confessedly by all an important one; although many act as if it were of no moment, whether through marriage, *health*, *beauty*, and *intellect* should be possessed by the offspring thence resulting, or that *deformity*, *disease*, and *insanity* should be the portion of these latter. The problem in this case is chiefly a physiological one, and to be solved by reference and obedience to physiological laws. These should be familiar to every well educated person of either sex, whose proper delicacy will receive no stain by a calm inquiry into the conditions on which a good physical nature and favourable mental predisposition are transmitted from parent to child, and more fully developed with the growth of the latter by judicious training. There are many more important laws for an ingenuous and inquiring youth to study than the common, civil, and canon laws.

A Treatise on the Eye: containing Discoveries of the Causes of Near and Far Sightedness, and of the Affections of the Retina, with Remarks on the Use of Medicines as Substitutes for Spectacles. By WILLIAM CLAY WALLACE, Oculist. Second edition. New York: Samuel Colman. 1839.

WE received within these few days, by mail, a portion as it would seem of the treatise by Dr. Wallace, but how much we are unable to say. We cannot, until we see the work complete, express ourselves with entire freedom respecting its scope, although there is enough before us to justify a favourable opinion of the originality of some of the views of the author. To an account of the comparative anatomy of the eye, and of its structure and appurtenances in the human subject, is added a minute description of the Retina, and an account of the proximate cause of affections of this part of the Organ of Vision.

It will be recollected by our readers, that in the November number of this Journal, we introduced, under the head of "Adjustment of the Eye to Different Distances," a communication, read at the British Association of Science, by Sir David Brewster. That communication was made by Mr. Clay Wallace, and was spoken of in terms of commendation by the learned and scientific gentleman who introduced it to the notice of the Association. The discoveries by Mr. Wallace, announced on that occasion, and introduced and enlarged in the work before us, are of the apparatus by which the eye is adjusted to different distances; and of the fibres of the retina. In illustration of the first point, the author describes a muscle varying in shape in different fishes, whose eyes have spherical lenses, which by virtue of its attachment to one side of the lens brings it, when occasion requires, nearer the retina. In the human eye, or the eyes of most quadrupeds in which the crystalline is not spherical, but lenticular, there are numerous adjusters closely arranged round the circumference, and exhibited by Mr. Wallace. The chief of these are the ciliary processes, "resembling leaves," "which are placed round the magnifier, like the petals of a flower." "At the roots of the adjusting leaves there are muscles with radiating fibres, which are covered by a white ligamentous, substance, and a thin, dark skin, which lines the eye, and keeps them from being readily observed."

The importance of the subject will justify our recurrence to it ere long, when we shall take occasion to notice the chapter on "*Medicines as Substitutes for Spectacles.*"

The text throughout, in this little volume, is illustrated by wood-cuts, fifty-five in number, of the different parts of the eye of the human subject, as well as of several animals referred to. The majority of these are original.

* Eclectic Journal, for November 1838.

The New York Journal of Medicine and Surgery. No. I. July, 1838. George Adlard. pp. 244.

Long life and greeting to this new comer in the great family of medical periodicals! It manifests good stamina, varied and intelligent features, and, at the same time, a manner so correct, and a dress so gentlemanly, that it will take its place at once at the council board, ready and able to advise and devise plans and measures for the advancement of medical science, and for the support of the honour and reputation of medical men. We had marked for our present Number a paper entitled "Reports of Cases illustrating the Treatment of Fractures of the Extremities by the Immoveable Apparatus," by Drs. Heard and Gould; but its insertion is unavoidably postponed until next month, when, also, we may offer some definite remarks on the other contents of the young journal.

The American Journal of Dental Science. Vol. I. No. 1. June, 1839. Edited by Chapin A. Harris and Eleazor Parmly. pp. 48. 8vo. Terms, $3 per annum.

Into the causes, propriety, or philosophy of making dental surgery a distinct profession, or separate branch of the medical profession, such as it has of late become in the United States, we will not take upon ourselves to inquire. The fact of such separation, at least in our great cities, is now indisputable. That the education of a great many dentists, we mean, that by which they should be enabled to understand the physiology and pathology of the teeth, and the influence exerted reciprocally by the dental apparatus on the functions, and by these latter on the former; and by which they are taught when properly to operate, and what results to expect from an operation, is lamentably deficient, few will dispute. The calling of a dentist seems to be considered open ground, into which any fellow who has impudence, some steadiness of hand, and a case of instruments, thinks himself free to take up a position. Need we be surprised, then, that there are so many more operators than thinkers; persons who use their hands much more than their brains, and whose sole idea of the art consists in extracting, filing, and planting teeth, without regard to the constitutional sympathies, or general health, or even the connexion between the gums and teeth, of the victims of their ignorance.

That there are men of science and worth in the art, who are desirous of protecting it against the farther inroads of these Dental Cossacks, and of rendering its practice as useful as possible to the community, we have evidence in the names of the two editors of the 'Journal of Dental Science,' to whose labours in their new vocation we wish all success. Part of the work is a Journal record, and for review; another will be a reprint of some approved work on Dentistry. The articles in the first division of the present number are various and appropriate. The selection of "Hunter on the Teeth" for the latter department, of which twenty-four pages are printed, was not perhaps the most fortunate. The whole of this work, with the requisite plates, is published in the present (August) number of our Library.

PATENTS.

Extract from the Minutes of the Philadelphia Medical Society.

Resolved,—That all discoveries or improvements in Medicine or Surgery should be freely promulgated through the appropriate channels of Medical information, for the advancement of Medical Science and for the good of mankind. And that the appropriation of such discoveries or improvements by their authors to their exclusive pecuniary emolument by the taking out of patents, or otherwise, is at variance with those principles of liberality and beneficence which should distinguish the Medical character.

Ordered to be published.

Henry Keim, Jr. Rec. Secretary.

March 27, 1839.

THE ECLECTIC

JOURNAL OF MEDICINE.

Vol. III. SEPTEMBER, 1839. No. 11.

SKETCHES OF MEDICINE IN PARIS.

No. I.—Sœurs de la Charité.

What can I say good enough of you, ye good sisters of charity! Rather than write commonplace encomiums on virtue like yours, I would be silent altogether; yet how can I be silent who have been so often moved by your steady enthusiasm, and by the almost daily exhibition of some act of virtue, of which your whole lives are but the history! Ye unpaid nurses of sorrow and of sickness, whose only supports and comforters ye are—who, in the midst of "all the sad variety of wo," when all medication fails, and life is fast ebbing away, still abide by the dying, and, when all is over, can go from the dead man's couch undismayed, to smile with a renewed interest on him who is recovering—ye who practice unheard-of self-denial—who never answer the coarse coarsely, or offend the peevish! I have seen ye for years, in many a trying strait, the peace-maker between the refractory patient and the not always reasonable doctor. Come into the ward St. Laurent with me. If you ask why this ward particularly, I will tell you. It is the most revolting ward at St. Louis, and St. Louis is the least enticing of hospitals. Internal disease may to the patient perhaps be even more awful in results or fears of results, but to the mere spectator disease can never manifest itself more shockingly than when its ravages are on the surface of the body. No, you will not enter that low-roofed, spattered, and bemired apartment, of which the very look from the door-way terrifies. Why should you breathe that rank, close air, heavy with the smell of sores, of salves, and of sulphur? Why should you penetrate those foul recesses, and pass from bed to bed amidst yon crowd of half-naked ruffians, steeped in abominations of all sorts—youths who speak but to imprecate, and *blasés* old villains, offensive to every sense? To witness, but for once, such a mixture of fierceness and of filth, of misery united to mischief, you will not, even for curiosity's sake, pass under those low arches; and you are right: mere curiosity must turn away her head, sick, and unable to proceed. Yet, in the midst of all this, which you see from the door that I have opened, behold, and with reverence, one of those modest "sœurs" in her clean white and black head-gear, ministering with her soft womanly hands to that unsightly crew, or quietly knitting or sewing—for she never permits herself to be unemployed. "Aussi, ce n'est pas par intérêt que nous le faisons," said she to me the other day, smiling in sweet complacency at my unreserved communication of my feelings; which words, I remember, were scarcely out of her mouth, when a refractory young *galeux*, who had been repeatedly admonished, that, if he did not conduct himself better, he would be

sent away from the hospital, was summoned to appear before the physician; having listened with impatience to whose reprimand, the monster replied, with great vehemence, and with knit vindictive brow, "C'est la haine qui fait que la sœur s'est plain de moi!" The sister said nothing, but bent her eyes on the ground; for ourselves, we could, even at the chance of catching his disorder, have felled the young recreant with a blow; but the physician's words settled, in a most eloquent manner, this vindictive attack. "Silence, sirrah! and for shame." "Ici on ne reconnait que bienveillance et misericorde!"—out with his name—"rayez son nom!—exeat." Dr. Cazenove was that physician.

Nor are the amiable sœurs' duties confined to such as, it is to be hoped, generally appreciate their inestimable support! What though they have never been mothers—go to the Hôpital Jesus, filled with sick babies and scrofulous childhood, and say there if it be possible for even maternal στοργη to be more adequately represented. The sick child is a heavy burthen to the fondest parents. We love to play with our brats, which requires them to be well; and more than playthings, till there be some exchange of mind—some companionship—they cannot be. Instinct attaches, and pride is gratified where grace or comeliness qualifies its object: but the sœur looks throughout upon these poor children in a widely different light. With her these hapless little creatures are sacred deposits, of whose souls and bodies alike she considers herself to have become the temporary guardian; and whether it be to flourish on earth, or to be forthwith transplanted into heaven, her tender culture of the young plant is still the same. Any morning between nine and ten, if you ask for the "salle des teigneux," you will find, as I have done, a semicircle of little urchins from seven years up to fourteen, all in their white night-caps, and all but one, who is the biggest, sitting under her presidency to pick lint: he is standing, to read aloud for the benefit of the younger community, while the kind "sister of charity" sits by correcting his blunders; and so intent are the little folk at once on their rag picking and the story, that you may generally approach quite close to them before you are perceived: then, perhaps, an immediate stir takes place; the reader puts his book down disconcertedly, and his kind prompter rises to meet you. Do not now be afraid of putting her out, or scrupulous not to ask her too many questions. The only compliment you can pay a sœur is to take an interest in what most interests her—doing good. If, in showing you her young charges, she does not use periphrasis—if she speak the naked truth sometimes too plainly for your habits—remember the sœur is no fine lady; hers is only the refinement of mind, which religion can alone confer; she knows nothing of conventional phrases. If she conduct you to a poor little thing, frightfully emaciated, whose tense abdomen is blown out like a balloon, and whose attenuated members look rather like a roll of Herculanean papyrus than human skin; and if she quietly state, in his hearing, that he has been given up and will not live many days, be not shocked without necessity, for the little unconscious creature has none of your fears of dying; he hears the announcement without anxiety or even interest, and asks "sa bonne sœur," with a ghastly effort at a smile, to give him a little drink!—But I am becoming garrulous, and had nearly forgotten, in the society of the good sœurs, that I had a reader, perhaps a fastidious one.

No. II.—Doctors.

If it be true that troopers are extraordinary liars, M. —— would deserve to be their captain. When he chances to be in a good lying humour, it is extremely difficult to keep pace with him. His romances are as long as Scudery's, and much more diverting. I never knew a man so at home in the absurd or the impossible as M. ——. I have seen him at his hospital at 9 A.M.; and he has already seen a hundred patients and been three times round Paris.

Some men are great talkers upon one favourite subject,—he is equally voluble

upon all. I have heard him, in the brief space of ten minutes, touch upon literature and lepra, and descant on politics and prurigo. He is addicted—

> "To raising questions dark and nice,
> To solve 'em after in a trice;
> As if Philosophy had catch'd
> The itch, on purpose to be scratch'd."

"Now, gentlemen," he would say, when the visit was over, and he was in the act of untying his apron-strings, "now what would you do in such a case as the following?"—and then he would give one in which a conjuror's, not a doctor's, services seemed wanted: such a case, however, had only just happened to him, and was already doing well. The patient was generally an Englishman, "*grand bel homme* (*fort distingué du reste*)," whose name he was not permitted to mention. Of what he told us while he was washing his hands and we were looking for our hats, the following is a *souvenir*:—"*Ecoutez!*"—we turned our heads; "I am going to put a case to you—or, stay, I may as well tell you the case, as it occurred to me some weeks ago. An Englishman had an angry discussion with his wife; he determined, therefore, to commit suicide, and divided his throat from ear to ear with a razor. I was called in. I never saw any thing so frightful in my life: blood was pouring from an immense gaping wound all round the neck; besides which he had lost a *mer de sang* before I saw him! Having satisfied myself as to the cause of this rash act, I requested my patient (as I saw no time could be lost) to let me stay the bleeding. 'Sir,' replied the man (whose throat was cut from ear to ear), 'I am weary of life (*le tædium vitæ des Anglais*)—let me die.' But having lectured him upon the impropriety of his conduct, and having represented to him '*sa position, ses devoirs*,' *&c.* he at length consented to my saving him; adding, however, that the attempt was quite futile—that I might spare myself the useless trouble—that he had cut his throat too deep, and that nothing could now succeed." The philosophy of Seneca in the bath was a joke to the *sang froid* of our distinguished countryman. "What did you do, sir?" "*Il n'y avait rien de plus* simple. I contented myself, having drawn down his head, with keeping the divided surfaces together by a few simple stitches; requesting him to repose, and not upon any account to turn his head. He complied with my request, and at the end of five days I had the pleasure of meeting him on foot, on the *Boulevard Italien*." "The treatment was very simple," said the youthful clerk. "Yes, when you know it," said the other: "but, gentlemen, allow me to put to you a less serious case, and see how you could extricate yourselves under the following circumstances:—Suppose yourselves, any of you summoned to a great lady, living in a great house at the fashionable quarter of Paris. She is extremely sensitive and impressionable; she has snapt a needle in her finger, which lies at some depth from the surface, between it and the nail. I know what you will say—'I would get a pair of English tweezers,' *bien fines*, 'and try to draw it out; or if too low, I would make a little incision, and then use the tweezers.' Ah no! at least that is not what I did. Guess again. Come, I'll tell you what you would have done on reflection, and it is just what I did: I ordered a basin of warm water, and made the lady soak her hand in it till the nail began to soften; then I took a very fine penknife, and paring away layer after layer of the horn, it became at last as thin as silver paper. Then I made an easy aperture through its side, right over the needle, which I now drew out without the least difficulty, and without giving the lady any pain, which was what I particularly desired to avoid. *Tenez, voilà encore un cas lequel s'est presenté depuis peu.*" This was the case of a fish-hook which had penetrated deeply into the hand;—but I did not stay to hear whether it was of English or Irish manufacture, of the Limerick or Kirby bend; nor whether nor how it was extracted.

No. III. Skin Doctors.—Alibert.

Who has not heard of Alibert the great scabographer of Europe? It was on a fine July morning, now some years ago, that, under an avenue of limes in the great court of the Hôpital St. Louis, with two hospital sheets for a "tentorium

cerebello superextensum," and mounted on a temporary platform—a theatre for himself and his disciples—I was first introduced to this renowned and meritorious dermatologist. Before him, on his desk, lay rolls of portraits of different unsightly acquaintances, and pegged upon the trees, like linen hung to dry—a large assemblage of monstrous productions executed by the painter to the hospital. It was, on the whole, a bad preparation for a *déjeûner à la fourchette.*

Here you might study, *not* at your ease, the various modes of mischief entailed by syphilis upon the race of mortals. Look at that poor negro's face, which *first* challenges notice from its *colour;* a devastating ulcer of Paphian origin has made one mouth of the whole nether face, which to describe further were nauseous. Six other faces are stamped with equally impressive texts, warning you to beware that "idem est dissimili semper in ore Deus." A little further off, see that huge tumour which thrusts forwards a sightless eyeball, destined soon to occupy the whole orbit, and extending in an opposite direction towards the brain. The pinched chin and straw-coloured cheek render the fatal word cancer written below unnecessary. More frightful still in its outward manifestation, is, behold! polypus. These raised and blood-shot eyeballs seem to glare in phrenzied agony. On another tree or branch a hugely-swelled parotid swamps the whole face in its ceaseless growth. Simple hare-lip is not pretty, but what would you take to approach within a yard of those lips fissured with green gangrene? Yet, even here the painter occasionally intersperses with these horrors a dash of something less revolting. See that self-satisfied youth with his *mentagra;* and those females tricked out to exhibit the attractions of acne. But hark to the hum of voices! the morning instruction is about to commence. The pupils in hundreds flock round the benches, inkstands are uncorked, and pens preparing to take notes; others examine, ere it ascends the platform, each unknown malady, come to claim a name, and to obtain, if possible, an asylum. But I must introduce you first to Alibert himself. You see, at a glance, what kind of a person Alibert is: a frank, expansive countenance that there is no mistaking; where shrewdness is united to benevolence, and discernment apparently joined to great simplicity and *bonhomme;* you hear him called by his pupils, "le bon père Alibert." Well, Alibert is good natured, and so far benevolent; he is discerning, and uncommonly shrewd; but as to his simplicity, it is all affected—the *ars, celare artem.* As a lecturer, there is none that we would listen to with greater pleasure, for he is eminently conversational; which advantage, however, makes him, they say, a lecturer in conversation; when as every body wishes to say something, it is by no means so popular an endowment,

"Porrigo," thus abruptly would he open his subject, "vilain mot qui sort de la basse latinité du moyen âge, was introduced, together with the foul disease which it designates, by the Crusades. Now, I dare say, gentlemen, that many of you who hear me imagine that the age of chivalry was, if not a golden, at least a very polite and cleanly age, il n'en était pas ainsi; au contraire, it might almost, I think, be affirmed that the chiefest of the trials to which that chivalry was exposed was the having so many unsightly cutaneous disorders to brave in Palestine; not only the reigning diseases of the country, but such as were soon produced by thirst, vigil, famine, and dirty linen; things, gentlemen, of which Tasso never dreamed, but which the historian of disease is bound to consider in his attempt to trace disorders to their origin. Gentlemen, I state it unreservedly, there can be no doubt that we owe scalled head to the Crusaders!"

On mentagra—a subject on which he is particularly fond of descanting—"pour faire en quelque sorte," as he tells his class, "l'histoire de la barbe," he made many curious remarks, showing how accurately he had got up his subject and ransacked history. In Henry the Third's time, in France, razors were rare, and the beard was suffered to grow where it list; the consequence of which was endemic mentagra, which affected almost every man in almost every rank in society. Henri IV. "le monarque galant, luimême, était grand ami pour la barbe; mais pour une barbe bien reglée que fit-il? il ordonna ce qui suit"—which was to destroy the crop of hair under the chin entirely; but, to please the ladies, he sanctioned a thin ring of unclipped hair to adorn the contour of the lower jaw.

Mentagra was not much indebted to the king for these regulations. His

successor (Louis XIII.) était encore ami de la barbe, mais il avait ses idées (we all have, gentlemen!) Louis' idea was grand: it was in his reign that the idea of moustache was first conceived; but every thing changes, even to our beards; "les jolies petites moustaches, qui avaient succèdées à la barbe rayonnante de Henri IV." gained proselytes, and divided with it the favour of the sex; but moustache lost all its triumphs and sustained a signal overthrow on the accession of Louis VII.* This monarch, like Cicero, was no patron of beard, and ordered folk to keep their chins clean. This ordonnance made him many enemies; amongst others, his royal consort, who said that it was a shame for a man to shave like a priest, and to go with beardless lip into battle; so she procured a divorce; but many other husbands got into hot water with their wives in consequence of applying hot water to their chins. In the time of the first Crusades the fashion was still in favour of the long beard, on the proper cultivation of and attention to which much pains were bestowed. Not only was it trimmed daily, and perfumed at night with costly cerates, but a bag was invented to hold it, and every night after the great chevaliers of those days had said their prayers, they bagged their beards in a sort of reticule, similar in shape to that which the monks used to beg alms in, hence called a "bigotine." "So much for the beards of our ancestors! And next, gentlemen, respecting your own. If any of you now hearing me is conscious of having a beard in that situation (under the chin) where it proved so mischievous in Henry the Third's time, which was proscribed by Henri IV., and not revived by any of his successors, let me exort him to shave it off; and the rather to induce those who may feel reluctant to comply, let me read you the regulations imposed by the Ministre de la Guerre, or those whose duty it is to look martial, and whose wish it is, like your own, to appear gallant." Such was the mode in which Alibert used to carry on his out-of-door lectures, till within a few months of his death. He was a great favourite, and is still respected and talked of with pleasure by many of his old pupils, who prefer, with allowable predilections, the "tempus actum" and its teachers to their own immediate contemporaries.

Sketch IV.—Monsieur Biett.

Monsieur Biett's face, if represented, and it deserves to be represented, would be better in terra-cotta than in marble. To a superficial observer there may appear a certain rugosity of features, which soon wears away in the intelligence and shrewdness which it displays. The droll way he has of enlivening the tedium of the two long hours' visit, and of keeping up his own and his pupils' attention till the last petitioner for sulphur and fumigation is gone, is unique. During assiduous frequentation of his practice, and some participation of his society, we never heard him utter a silly, and seldom an uninstructive remark. His conversation is the "sublime of good sense," as St. Mare Girardin says of Voltaire; he seems unambitious of more extensive fame than his pupils can bestow, and cares not if his observations go beyond the walls of the consultation room. Armed as he is with quickness, uncommon sagacity, and ample experience, he admits the probing, perhaps indiscreet, question, and affects no unattainable precision; nor does he seek, as the manner of some is, to say striking things, but looks out quite "au naturel" under his bushy eyebrows. We never heard him use an unkind word to a patient, and many times have seen him confer on them those little attentions—the unbought charities of life; and this we mention the rather that too many medical men in France seem to forget they are dealing with their fellow-creatures, and appear rather to interest themselves in disease as philosophers, than in the unhappy sufferers as men.

We have said enough to interest the reader in M. Biett's moral character, and shall proceed to some specimens of his intellectual—of that sort of quickness and cleverness which we have praised, and which we venture to think will ever add additional charm in the exposition of all kinds of knowledge. Many of the patients who come to ask advice are afflicted with that unsightly malady which,

* The writer makes a historical jumble in his narrative. Louis VII. reigned about 450 years *before* Henry IV.—Ed. *Eclec. Jour. Med.*

for want of a convenient periphrasis, we are constrained to call by its opprobrious name of "itch." Biett has been familiar with it for many years; but, unlike other intimacies, not to the shaking of hands. Sometimes the querist (as if aware of the Aristolean *αποσιωπησις*) does not name the disease—"Est-ce bien *la*—eue j'ai?" making his hands, which he extends, complete the interrogatory. Biett answers such questions in an equally droll and delicate manner: "Oui, monsieur, c'est bien *la*—." But as the "Bourgeois gentlehomme" was taught seven ways of varying the same sentence, so does the mode of questioning M. Biett on this interesting existence vary almost *ad infinitum*. The following may serve as some of the most usual ways in which it is presented:—"Monsieur, j'ai la gale." To which he replies, having satisfied himself that it is even so, "Oui, monsieur, vous avez la gale." Sometimes the same question is put interrogatively—"Monsieur Biett, ai-je la gale?" A third, showing his fingers, says, his friends insinuate that he has the itch. "Que j'ai la gale!" "Eh bien! vos amis out raison. Your friends are quite right in their diagnostic; you have it in perfection." A fourth flings his paws on the table, and requests "M. le Dr. de prononcer un petit mot sur cette maladie." "Am I to name it for you," asks M. le Docteur.—"I wish you would be so good." "With pleasure—*itch!*"—"Impossible." "Oh, my friend, with me nothing is impossible."—"But, sir, my wife ought to have taken it, for we sleep together." "Ne vous impatientez pas, mon brave, she will take it, I answer for it, in a short time."—"Peste!" "No—itch, I said."—"But, sir," rejoins the obstinate man, "I have not even seen a person with the itch." "I did not say you had, did I?—besides, sight is not the sense that communicates itch." A man winding himself up for an oration receives a check by the simple monosyllable—*gale*. "Monsieur, vous plaisantez," says the patient, malgrè lui. "Si vous le trouvez plaisant," gravely responds Biett.—"A la bonne heure." "Au contraire," exclaims the indignant accused, as if Biett had given him it. "C'est une infamie, une abomination." He has still, however, one shot to fire before he surrenders—"Voyez, monsieur: look between these fingers, they are free from all eruption." "Insatiable man! must you have it even between your fingers to satisfy you? Wait a week." "Monsieur! I am afraid you will pronounce this to be itch," said a fellow in a blouse, rotating a dirty hand round its carpus, just within the focus of Biett's eye. "Vastly like it, indeed."—"And when, sir, might I have taken it?" "Why, my friend, it would be difficult to answer that question; perhaps you are not aware that 'la gale' does not inscribe date 'sur ses boutons.'"

It is a mother seeking admission for her boy—she is a smart little brunette. "Do you wish your son to become demoralized, madam?" "Comment, monsieur?"—"Mais, mon Dieu, oui, madame! morals are not taught in the Salle Henri IV.; on entre avec la gale, on sort avec toutes les vices." "Tiens, c'est drole! pourtant, monsieur, nous voudrions faire entrer le petit bonhomme tout de même!" He was admitted accordingly.

I saw a sturdy fellow on one occasion return his ticket of admission, as the sight of the wards did not appear to meet with his approbation. Most men would have been annoyed—Biett lets nothing put him out. "Monsieur," says he, turning solemnly round, and with a certain air of dignity to another whom he had just refused, for want of room—"Monsieur, vous êtes reçu!" as though he was admitting him into the Institute. "Vous avez tous la gale—You have got the itch, every one of you," to a knot of blackguards, who came up for the ceremony of confirmation; "and observe, gentlemen," he continued to his pupils, as the blouses passed in front of the table, "observe, and make a note of it. Not one of these young men, you see, takes off his hat! in obscure cases, and where you have your doubts, look to the head: if the hat is on, that will settle the question at once; in *itch*, the hat is really diagnostic!"—"Encore, la gale!" "No, sir, there you are wrong—*eczema* is my disease; you told me so yourself last week." "Did I? you have a good memory. Well, last week you had eczema; there it is—to-day you have the itch; there it is—you have now what we call a 'complication,' will you recollect that word?" "I'll try to do so," said the twice happy man, and drew down his shirt sleeve!—*Med. Gaz.*

ON THE EFFECT PRODUCED ON THE PULSE BY CHANGE OF POSTURE.

BY W. A. GUY, M.B. CANTAB.

[Guy's Hospital Reports.]

That the pulse is usually higher in the standing posture than when sitting, and in this again when lying, was made known to the profession by Dr. Bryan Robinson about a century ago. This subject, or *the differential pulse*, as it is called, was revived about fifty years since by Dr. Macdonnell, of Belfast, and touched upon soon after by Dr. Falconer, of Bath.

Dr. Knox, in a paper published in the Edinburgh Medical and Surgical Journal, in 1815, and lately republished in an enlarged form,* which we noticed in our Seventh Number, showed that the difference in the pulse alluded to is at its maximum in the morning, and decreases considerably as the day advances. Dr. Graves ascertained that it becomes more marked as the pulse augments in frequency. A number of observations were made by Dr. Hohl, of Halle, on the pulses of pregnant women, and are related in his work on the exploration of pregnancy. They afford the following averages: Pulse, when standing, 94—sitting, 83—lying, 77; proving that the general rule to which we have alluded is not interfered with by the existence of pregnancy.

Dr. Guy's first paper is founded on one hundred experiments, all made on males; they were commenced in the year 1832. "They were all made on healthy males who had not eaten food for at least two hours previously, and had remained at rest for some time, and ordinarily between noon and two o'clock, P.M., before the person had taken any violent exercise or exposed himself to any other cause of excitement." The age of the persons submitted to experiment ranged from twenty to fifty; the great majority, however, were under thirty, the mean age being a little above twenty-seven. The mean results arrived at by Dr. Guy, omitting fractions were, standing, pulse 79—sitting, 70—lying, 67. Hence the mean difference between standing and sitting was 9; that between sitting and lying 3; and between standing and lying 12.

Some of the extreme cases were, however, very distant from these mean results, as is obvious from the tables given. Thus, the maximum difference between standing and lying amounted to 44 beats, or little less than one-half of the total number of pulsations in the erect posture; whilst, in seven cases, this difference was so low as 4, or only $\frac{1}{14}$th of the whole number; in three instances it was no more than two beats; in three there was no difference at all; and in five the pulse was actually *higher* when lying than when standing; ditto when sitting than when standing, in three; ditto when lying than when sitting, in eleven; in nineteen instances there was no difference between sitting and lying; and in five none between standing and sitting.

These exceptional cases, however, bear but a small proportion to the whole number on which the law rests. If they be struck out of the tables, the mean number of pulsations in the standing, sitting, and lying posture, appear to be 81, 71, and 66, respectively; that is, the difference between standing and sitting = 10 beats or $\frac{1}{8}$th of the whole; the difference between sitting and lying 5 beats or $\frac{1}{14}$th of the whole; that between standing and lying 15 beats or $\frac{1}{5}$th of the whole.†

* Inserted entire in the *Eclectic Journal of Medicine*, p. 325—40. Vol. I.

† The difference between the number of pulsations when standing and when lying amounts, according to Robinson, to 14; Macdonnell, 12 to 16; Falconer, $6\frac{3}{4}$; Knox, 10; Graves, 6 to 15; Nick, 15 to 20; Hohl, (in pregnancy) 17.

The large number of experiments on which Dr. Guy's averages, given above, rest, entitle them to much consideration.

Hence, if we know what the pulse is in the erect posture, and would calculate what it is probably in the sitting posture, we have only to subtract $\frac{1}{8}$th, or from the lying posture $\frac{1}{5}$th. But it must be remembered that these average proportions hold good only in respect to a pulse in a quiet state, and of moderate quickness (60 to 90); the differences increasing in a greatly augmented ratio when the pulse is accelerated; thus, for example, when the pulse is between 90 and 100, standing, the recumbent pulse will be about $\frac{1}{4}$th less; if between 110 and 130, the recumbent pulse will be about $\frac{1}{3}$d less.

Both Dr. Graves and Dr. Knox have regarded the degrees of effect produced on the pulse by posture as a measure of debility. Whether it is a strictly appropriate one must be doubted, when we recollect that the casually accelerated pulse of a stout and healthy individual manifests equal amounts of variation, under the influence of posture, with those observed in the case of an equivalent pulse in disease. The pulse, as it has been correctly stated by Robinson and Graves, is strongest in the horizontal position, so that its maximum of strength and minimum frequency are attained together. It is deduced by Dr. Guy from his own tables, that the exceptional cases, that is, those in which change of posture does not produce its ordinary effect, diminish in frequency as the pulse becomes more rapid. Thus, for example, out of fifty cases, where the pulse was between 51 and 70, there were eighteen exceptions; whilst out of other fifty, where the pulse was between 110 and 130, only one exception occurred. So likewise irregularities of pulse often disappear under the influence of feverish excitement.

By means of a couch revolving on an axis, Dr. Guy satisfied himself of the correctness of Dr. Macdonnell's and Dr. Graves's observations, as to rise in the pulse being altogether independent of the effort by which the posture is changed. He has moreover proved experimentally what had been only surmised by others before him, namely, that the true cause of the increased frequency of the pulse in the sitting and standing posture, as compared with the recumbent, is the muscular exertion employed in their maintenance. Thus he found that the usual effect on the pulse in the sitting posture was almost entirely superseded when the back was supported, as was likewise the case in the erect posture when the individual leaned upon some high object. Whilst, on the other hand, the pulse in the horizontal posture rose no less than 14 beats on an average, on the body being supported merely under the head and shoulders and under the heels; whilst, in the sitting posture likewise, the circulation was considerably accelerated when the legs were raised by a muscular effort to right angles with the unsupported trunk.

Those who, like Blackley, have ascribed the effect on the pulse to the altered position of the heart and its valves in the erect, as compared with the recumbent posture, or, like Arnott, to the change in respect to the gravitation of the blood, seem to have forgotten that, whilst the difference between the pulse of the erect and sitting posture is nearly double of that between the sitting and recumbent posture; yet the above conditions in respect to the heart's gravity remain, whether sitting or standing, nearly the same.

In Dr. Guy's second paper, the subjects of the experiments are females; and he here limits himself to the examination of fifty subjects, instead, as in the former instance, of one hundred; since, "for obvious reasons, opportunities of making correct observations on the pulses of healthy females occur but rarely." The ages of the persons examined in these experiments ranged from eighteen to eighty, giving a mean age of 27.18, and affording the following results: Standing posture, 89.26; sitting ditto, 81.98; lying, 80.24. These numbers give, as a general rule, an average difference of frequency in pulsation between the standing and sitting postures of 7.28; between the sitting and lying, of 1.74; and between the standing and lying, of 9.02. There occurred in these experiments, as in those upon males, many exceptions to the general rule of the pulse being less frequent in the recumbent, less so in the sitting, and least so in the standing posture: with this addition, that the exceptions were more numerous in the female than in the male. The first twenty-seven experiments, however, refer to the general rule, and from them all exceptions are excluded; these give, as the

mean age, 26.45; as the average of frequency, in the standing posture, 91.33; in the sitting, 84.37; in the recumbent, 79.74.

The exceptions to the general rule are very numerous in the female, and amount, in their several varieties, to as much, on the average, as 46 per cent.

Dr. Guy next proceeds to the examination of the effect of posture on the pulse of pregnant women, and compares them with those of Professor Hohl; there is some little difference of result from these two examinations; but we are not told, in Hohl's experiments, of all the circumstances under which the examinations were made, neither are the ages of the patients mentioned. In Dr. Guy's experiments, the mean age of the persons examined was 29; the frequency of pulse, in the standing posture, 87; in the sitting, 83; in the lying, 80: the differences, 4, 3, and 7. The difference observed in the comparative frequency of the pulse in different postures is greater as the pulse is naturally more frequent. "The pulse of the adult female exceeds in frequency the pulse of the adult male, of the same mean age, by from 10 to 14 beats. In the erect posture, it is more frequent by about $\frac{1}{8}$th; in the sitting posture, by about $\frac{1}{6}$th; and in the recumbent posture, by more than $\frac{1}{5}$th; but, although the pulse of the adult female is more frequent than the pulse of the adult male of the same mean age, the effect of a change from the erect to the recumbent posture in the male is greater than the effect of the same change in the female, by more than $\frac{1}{3}$d."

The influence of posture on the comparative frequency of the pulse is much modified by age. From an examination of the tables referring to this point, it appears that the influence of posture upon the pulse is less in early youth than adult age, and the modifying influence of age is greater in the female than the male.

Dr. Knox, in the paper before referred to, and Dr. Nick* state that the effect of posture on the pulse is much greater in the morning than in the evening; the results of their experiments are both confirmed by those of Dr. Guy. Thus, in the morning, the mere change from the horizontal to the erect posture increased the pulse by about 15 or 20 beats. The results of seven experiments by Dr. Knox gave, as a mean result, a difference of 29 between standing and lying in the morning, and of 21 in the evening. The results of twenty experiments instituted by Dr. Guy gave, as a mean difference, immediately on getting out of bed, of 10 beats in a minute between the recumbent and the standing postures; after dressing, of 7.70; and immediately before going to bed, of 7.25. These experiments prove that the effect of change of posture is greatest in the forenoon, and least in the afternoon; they likewise establish the fact, first promulgated by Dr. Knox, "that the pulse is less frequent in the evening than the morning. This difference amounts to 11 beats."

The remainder of Dr. Guy's paper is occupied by a comparison between the result of his observations and those of Dr. Graves, made with the revolving board. Here, in the main, they agree; there is some little difference of opinion as to the physiological cause of the difference of frequency of pulse during recumbency and in the erect posture: but this appears to us of little moment. The last experiments were made with the revolving board to ascertain the extent to which the pulse would fall below that of the horizontal posture, by depressing or lowering the body to angles varying between thirty and forty-five degrees; from which Dr. Guy concludes that the natural tendency of the inverted position of the body is to diminish the frequency of the pulse. When the head and body were inverted thirty degrees, the average depression of pulse was $6\frac{1}{2}$ beats; at forty-five degrees, $1\frac{1}{2}$; completely inverted, 7 beats.

These experiments appear to have been performed with great care, and due attention to all circumstances which might have interfered with a correct result. They are physiologically curious; and Dr. Guy deserves the thanks of the profession for the care and assiduity evinced in their institution and performance. We refer the reader to the original paper for a series of tables containing much curious information in reference to the whole subject.

* Beobachtungen uber die Bedingungen unter denen die Haufigkeit des Pulses im gesunden Zustand verandert wird. Von G. H. Nick.—Tubingen, 1826. p. 41.

We are pleased to find that the author is engaged in collecting materials for discussing the practical application of the results obtained; and trust that he will at the same time take occasion to elucidate the causes of the numerous exceptions to the general rule, as well as to show the modifying influence exercised by disease of different organs, and more especially of the heart and lungs, both in respect to the rules and the exceptions.—*British & Foreign Med. Rev.*

[From the New York Journal of Medicine and Surgery.]

REPORT OF CASES ILLUSTRATING THE TREATMENT OF FRACTURES OF THE EXTREMITIES BY THE IMMOVABLE APPARATUS.

BY JOHN S. HEARD, M.D., AND JAMES B. GOULD, M.D.

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It has long been a desideratum with surgeons to possess some apparatus for the treatment of fractures, more particularly of the lower extremity, which should combine the qualities of perfect adaptation to the limb, easy application, strength, and lightness. In order to meet this want, the ingenuity of the profession has invented a variety of apparatus, but no one seems to unite so many advantages as the Immovable Apparatus of M. Suetin of Brussels: we say of M. Suetin,—for, although the principle of the apparatus may claim a higher antiquity,—to him belongs the credit of rescuing it from the oblivion to which it was so unworthily consigned, and of reducing it to its present state of perfection. This apparatus consists of the following parts, viz:—1st, 5 or 6 rollers $6\frac{1}{2}$ yards in length and three inches in breadth. 2d, 2 or more pasteboard splints. 3d, A quantity of starch, such as is used by washerwomen.

The method of applying this apparatus will be more readily understood by selecting a case of simple fracture of the leg, and detailing the various steps of the process.

The bones being reduced and held in coaptation, a roller is applied from the toes up to the knee; this is first to be thoroughly saturated with the starch, by means of a brush, or, what is better, the hands, rubbing it well in; the surface is then coated with a thick layer of the starch; a second roller is now applied and treated in a similar manner with the starch. Two splints of paste-board of sufficient length to extend from the knee to the sole of the foot, (under which they should pass) are to be moistened with warm water, and then saturated and coated with the starch; these are now to be applied, one on either side of the limb, being accurately moulded to the parts. Over these splints a third and fourth bandage is to be applied, saturated with the starch like the two preceding.* The limb is now to be laid on the heel, on a pillow, and the apparatus allowed to dry and become hard, which it usually does in the course of from 48 to 72 hours: when this has taken place the patient may walk about with the aid of crutches.

The splints should be made of that kind of paste-board denominated *binder's board*, and should be cut out with a strong pair of scissors; they should have foot pieces extending from the heel to the toes; they should, also, have small triangular pieces cut out on the sides, one inch apart; these splints should nearly, but not quite, encircle the limb,—an interspace being left, in order that if

* Sometimes it may be well to apply one or two more bandages.

the apparatus should become loose from the subsidence of the swelling, or any other cause, they may be approximated by a bandage firmly applied over the whole apparatus. It may sometimes be necessary to apply two sets of splints, in which case the outer set need extend no lower than the ankle.

We shall now enumerate some of the advantages which this method of treating fractures possesses over all others:—1st. Its accurate adaptation to the limb. 2d. Its lightness combined with strength. 3d. Its cheapness and the facility with which it can be obtained. 4th. Its easy application. 5th. Its comfort to the patient. 6th. The exemption it affords the patient from ulceration of the heel, by no means an uncommon occurrence with the ordinary fracture box. 7th. The freedom of motion it allows the patient; his health not suffering from confinement to bed, and to one position for from 6 to 8 weeks or even a longer period. 8th. It obviates the necessity of those repeated adjustments so necessary in other methods. The surgeon may rest satisfied that all will go right.

These advantages are certainly sufficient to give the preference to this apparatus over all others now in use. There are certain cautions to be observed in the application of this apparatus; if there be much swelling with heat and pain in the limb, it will be best to delay the application until these shall have, in a measure, subsided; that passive swelling, so to speak, which remains after the subsidence of the inflammation being readily removed by the apparatus. In applying the bandages, great care should be taken to have the pressure equable from the toes to the knee.

We shall now give some cases of fracture, illustrating this method of treatment:—

No. 1. *Simple fracture of the leg.*—WILLIAM STIVISON, born in Ireland, aged 28, a labourer, was admitted into ward No. 2, of the New York Hospital, December 1st, 1838, with fracture of both bones of the leg about the middle; the injury was the result of a blow about an hour previous to admission. The limb was placed on the heel on a pillow, and lot. evap. applied.

December 7th. The swelling having subsided, the immovable apparatus was applied.

December 10th. Apparatus dry and firm; is walking about with crutches.

January 12th. Apparatus removed; union firm; no deformity.

GURDON BUCK, Jr., M.D., Attending Surgeon.

No. 2. *Simple fracture of the leg.*—JOHN GILLEN, born in Ireland, aged 30, a labourer, was admitted into Ward No. 14, of the New York Hospital, December 3d, 1838, with a simple fracture of both bones of the leg, about 3 inches above the ankle joint; he had, a few hours before his admission while intoxicated, fallen down into a cellar. The limb was placed in a double inclined plane, and lot. evap. applied.

December 8th. Swelling in a great measure subsided; immovable apparatus applied.

December 11th. Apparatus hard and dry; walks with the aid of crutches.

January 3. Apparatus removed; union firm; no deformity.

ALEXANDER H. STEVENS, M.D., Attending Surgeon.

No. 3. *Simple fracture of the arm.*—EDWARD WALLIS, born in Ireland, aged 30, a cartman, was admitted into Ward No. 10, New York Hospital, December 6th, 1838. Ten days previous to his admission, in endeavouring to stop his horse that had run away, he was thrown down, and the wheel, passing over his right arm, fractured the os brachii about its middle; splints and bandages had been applied, but the pressure seems to have been unequal; he complains of great pain, and upon removing them after admission, there was found considerable tumefaction, especially at the elbow; the arm was laid in a flexed position upon a pillow, and lot. evap. applied.

December 10th. Swelling has mostly subsided; immovable apparatus applied.

January 8th. Apparatus removed; union perfect; elbow stiff; passive motion ordered.

ALEXANDER H. STEVENS, M.D., Attending Surgeon.

No. 4. Compound fracture with delirium tremens.—CHARLES MILLER, born in New York, aged 37, a seaman, was admitted into Ward No. 3, Marine Department, December 15th, 1838. About an hour previous to admission his right leg became entangled in machinery, by which a compound comminuted fracture of the tibia and a simple fracture of the fibula were produced; the seat of fracture being at the junction of the lower and middle third of the leg; there was a lacerated wound of the integuments about 2 inches in extent, through which the lower end of the tibia protruded for 2 inches; the bones were reduced, and the wound dressed with adhesive straps and lint; the leg was now extended upon a straight splint, the thigh being firmly lashed to the upper part, and the foot secured to the foot piece; lot. evap. applied.

This man was addicted to the intemperate use of ardent spirits, and was soon attacked with symptoms of delirium tremens, and in his raving threw the limb and splint violently about, so that it was almost impossible to keep any kind of splint attached, or the bones *in situ*;—with a view to accomplish these two ends, Amesbury's apparatus was applied, but it was found impossble to keep it on from the violence of the patient. His health had now suffered materially, and his heel had ulcerated from the pressure requisite to keep the limb attached to the splint; the wound had become unhealthy and was sloughing; the ends of the tibia were also necrosed.

January 9th. It being doubtful whether the life of the patient, much less his limb, could be saved, it was determined to apply the starched apparatus.

The wound was dressed with lint smeared with ung. bals. Peru.; over this was laid a piece of sheet lead, 2 sets of splints and 6 bandages were applied.

January 12th. Apparatus dry, a piece was cut out over the ulcerated heel, in order that daily dressings might be made; he now walks about, and thus the farther spread of his bed sores is stayed; under a generous and stimulating diet, his health improved, and all traces of delirium vanished; says he feels decidedly comfortable since the application of the apparatus.

February 6th. The apparatus having become saturated with the profuse discharge from the wound and extremely offensive, was to day removed; the limb was found in the following condition: union had taken place, but was not firm; the wound is healthy and contracted to about one third its former size, and is covered with exuberent granulations; a new set of the apparatus was applied, the ulcer having been freely brushed over with nit. argent.: when the apparatus had become dry, a small piece was cut out over the ulcer in front, in order to allow the pus to drain off.

March 2d. Apparatus again removed on account of the sheet lead having worked down upon the instep, and there causing irritation; the union was found to be firm, and the ulcer connected with the fracture all but healed; several small pieces of bone were removed; ulcer on heel healed for some time; for safety's sake, 2 side splints of Amesbury's apparatus were applied to the leg.

ALFRED C. POST, M.D., Attending Surgeon.

No. 5. Simple fracture of the leg.—MARY MCCREADY, born in Ireland, aged 30, was admitted into Ward No. 5, New York Hospital, December 20th, 1838, having fallen from a ladder a few hours previous to her admission, and fractured her right leg, about two inches above the ankle joint. There was considerable swelling with pain in the limb; it was placed in a fracture box, and lot. evap. cum tinct. opii applied.

December 25th. The swelling had subsided in a great measure and the pain ceased; starched apparatus applied, and as soon as it became dry and hard she walked with crutches.

January 22d. Apparatus removed; union firm; no deformity; some swelling; limbs bandaged.

ALEXANDER H. STEVENS, M.D., Attending Surgeon.

No. 6. *Simple fracture of the leg.*—MARIA SMITH, born in Ireland, aged 30, was admitted into Ward No. 5, New York Hospital, December 26th, 1838, having just fallen down on the ice and fractured her right leg about the junction of the lower and middle third. There was considerable pain in the limb, but not much swelling; it was placed on a pillow on the heel, and lot. evap. cum tinct. opii applied.

December 30th. Pain has ceased; some swelling; starched apparatus applied.

February 6th. Apparatus removed; union perfect; no deformity.

ALEXANDER H. STEVENS, M.D., }
JOHN KEARNEY RODGERS, M.D., } Attending Surgeons.

No. 7. *Compound fracture of the leg.*—HENRY A. ADAMS, born in New York, aged 12, was admitted into Ward No. 10, New York Hospital, January 2d, 1839. Two hours prior to his admission, he was run over by a hose-cart and his right leg fractured by the wheel passing over it. There was a compound fracture of the fibula, the external wound being, however, slight; and a simple fracture of the tibia at its middle. Although there was but little swelling, he complained of great pain; the limb was placed in a fracture-box, and compresses were applied, wet with tinct. opii.

January 3d. Twenty-two hours after the receipt of the injury, the immovable apparatus was applied, giving immediate relief from pain; in 48 hours he was walking about by the aid of crutches.

January 31st. To-day removed the apparatus; the union is perfect.

JOHN KEARNEY RODGERS, M.D., Attending Surgeon.

No. 8. *Simple fracture of the leg.*—MARGARET BEHEAN, born in Ireland, aged 36, was admitted into Ward No. 5, New York Hospital, January 13th. This morning she fell down, and her left leg passed through a grating in the side-walk, by which it was fractured about two inches above the ankle. Some swelling and pain; the limb was placed upon a pillow on the heel, and lot. evap. cum tinct. opii applied.

Twelve hours after the injury, the limb being still somewhat swollen, the immovable apparatus was applied.

January 16th. Complaining to-day of severe pain; removed the apparatus; slight vesications; apparatus reapplied; after this became dry; she had no pain.

March 3d. Apparatus removed; union firm.

JOHN KEARNEY RODGERS, M.D., Attending Surgeon.

No. 9. *Simple fracture of the leg.*—CHARLES HEALY, born in Ireland, aged 52, a labourer, was admitted into Ward No. 2, New York Hospital, January 30th, 1839. About a year ago, this man fell and fractured his left leg just below the middle; this united with some deformity, the lower end of the upper fragment projecting so as to be quite prominent. On the day of his admission, he fell down stairs, and again fractured his leg just below the seat of the old fracture; the limb was placed upon a pillow on the heel.

January 31st. Immovable apparatus applied, a fold of lint being placed just below the projection.

March 14th. Apparatus removed; union not firm; apparatus reapplied.

March 28th. Again removed apparatus; union is more perfect.

ALFRED C. POST, M.D., Attending Surgeon.

No. 10. *Simple fracture of the tibia.*—JOHN YOUNG, born in New York, aged 19, a seaman, was admitted into Ward No. 5, Marine Department, January 31st, with a simple fracture of the tibia about its middle, caused by his leg being jammed between the dock and a vessel, two days previous to his admission. There was great pain and considerable swelling; limb laid on the side on a pillow, and warm emollient poultices applied.

February 6th. The immovable apparatus was applied.

March 3d. Apparatus removed; union perfect.

ALFRED C. POST, M.D., Attending Surgeon.

No. 11. *Simple fracture of the fibula.*—William Late, born in Maine, aged 34, a seaman, was admitted into Ward No. 3, Marine Department, February 4th, 1839. Two hours previous, a bale of cotton fell on his left leg and fractured his fibula about an inch above the malleolus externus; placed the limb on the side on a pillow, and applied lot. evap.

February 6th. Immovable apparatus applied.

March 4th. Apparatus removed; union firm.

Alfred C. Post, M.D., Attending Surgeon.

No. 12. *Simple fracture of the leg.*—John Derrick, born in Ireland, aged 18, a labourer, was admitted into Ward No. 9, New York Hospital, February 8th. Three days before his admission, while assisting at a fire, he was knocked down, and his left leg fractured at the junction of the lower and middle third; there was some swelling and displacement; the limb was placed on a pillow, and lot. evap. applied.

February 18th. Immovable apparatus applied.

March 21st. Apparatus removed; union perfect.

John C. Cheesman, M.D., Attending Surgeon.

No. 13. *Simple fracture of the leg.*—Michael Boyce, born in Ireland, aged 28, a labourer, was admitted into Ward No. 2, New York Hospital, February 18th. Three days before, a bank of earth caved in and buried him beneath it; by this accident his right leg was fractured about the middle; placed the limb, which was slightly swollen, on a pillow.

February 19th. Immovable apparatus applied.

March 29th. Apparatus removed; union perfect.

Alfred C. Post, M.D., Attending Surgeon.

No. 14. *Simple fracture of the leg.*—Theodore Schieffin, born in New York, aged 32, a seaman, was admitted into Ward No. 3, Marine Department, February 23d, with a fracture of both bones of the right leg, about the middle; the injury was caused by a fall a few hours previous; placed the limb on a pillow.

February 24th. Immovable apparatus applied.

April 1st. Apparatus removed; union not very firm; apparatus reapplied.

April 15th. Apparatus again removed; union is perfect.

Alfred C. Post, M.D., Attending Surgeon.

OBSERVATIONS ON THE CAUSES, SYMPTOMS, AND TREATMENT OF DISEASES OF THE SPINE.

By Charles Verral, Esq., London.

I was pleased to see in the Lancet of the 20th inst. the "Substance of a Clinical Lecture on Curvature of the Spine, by Frederick Hale Thomson, Esq." It is a subject to which the attention of the profession may well be especially directed; anything, good or bad, which may be the means of exciting that attention, must be productive of benefit, and, therefore, it is that I venture to solicit, in your pages, a place for this communication.

The treatment of distorted vertebral column (as Mr. Thomson justly observes), has remained unaltered from the days of Galen until now. Quiescence, recumbency, and counter-irritants, formed the staple of Galen's treatment, and such has been the treatment adopted by most of his successors down to this day, and inclusive of Mr. Thomson himself. It is certain, however, that very many, before Mr. Thomson, have insisted earnestly upon attention to the general health; and there is no name more justly celebrated in that respect than that of my late instructor and friend Mr. Abernethy. I think the lecturer in error, however, when he states that "the first step of the treatment should be to improve the general health." The first step of all is, assuredly, the choice of position; without it no other treatment can avail; and, although it may seem trifling thus to dispute about precedence where we agree upon principles, I feel impelled to do so from

the knowledge that thousands have been, and that hundreds are now being, sacrificed, who might, if *position* had been primarily and strenuously insisted on, have been rescued from disease, distortion, and death.

Amongst the many distorted objects who come under my charge, there are few who have not been directed by some physician or surgeon to attend to the general health, while small is the number of those who have been enjoined a strict adherence to the best *known* position; and thus, although the questions of diet and medicine may have been sometimes properly attended to, the disease and the curvature have necessarily proceeded until the form, and with it, perhaps, the health of the patient have been irretrievably destroyed.

I knew a young gentleman, four years of age, and, indeed, for a very short time, had the direction of his case, who was ordered, by a surgeon of high eminence, to refrain from lying constantly in any position, and who was, therefore, allowed to sit and run about at will, although disease and consequent distortion were going on in two distinct portions of the spinal column. The consequence has been a great increase of the curvature without a corresponding improvement in health. On the other hand, I may mention the case of a little girl, about the same age, whom the immense discharge from two abscesses connected with diseased vertebræ, appeared, during many months, to be dragging to the grave, who, after lying unmoved for nearly two years, has now recovered her health and strength, while the distortion has not only been prevented from increasing but has even very considerably diminished. For such reasons it is that I hold the choice of position to be the paramount consideration, and, that point settled, the remedies, whether constitutional or local, may be applied with great chance of success; but on the question of position there is a difference of opinion between Mr. Thomson and myself: his directions are, that the patient be kept flat on the back, and lie on a hair mattrass; that, however, I venture to affirm, is far from being the best position. Some of my reasons for saying this I have given elsewhere, and I shall hope one day to descant more largely on the subject. Space could not be allowed me here to say what I could wish in support of an opposite mode of treatment; I must, therefore, content myself with affirming that I believe there is no surgeon who has carefully and candidly watched it who has not become a convert to its general superiority.

Mr. Thomson's statistics appear to me to be very erroneous; his statement that among the poorer classes these diseases are comparatively rare, is deduced, I think, from a very partial view of the case. The peculiar character of his practice brings him into contact chiefly with the more affluent classes, while the charitable society whose servant I have the honour to be, calls on me continually to visit the most wretched abodes of poverty, destitution, and disease; my calculations, therefore, are based upon data very dissimilar to his, and are productive of very different results. I should say that while lateral curvature occurs most frequently in the upper and middle ranks of society, posterior curvature, the effect of accident or disease, is more than proportionably predominant amongst the poor.

Thus, while Mr. Thomson, out of his 300 patients, enumerates only 37 cases of this description, I have at the present moment 76 cases of diseased spine, with posterior curvature, under my immediate care. A very large proportion of these are amongst the very poor, and the greater number of them have fallen victims to the inert, undecided, and injudicious treatment of which I find so much reason to complain. Some of these, however, have been subjected to other, and I may say better, treatment, founded on the use of the supine position, but in which pain, excoriation, and probably increased and increasing ill health have forbidden them longer to persevere. I dwell on these statistical questions that I may show how lamentable a thing it is that in this country, so famous for its numerous and noble charities, there has never, until now, been any society having for its object the treatment of this class of disease, and that there is not even yet any institution for the reception and relief of the deformed and destitute objects who throng the courts and alleys of this immense metropolis.

I have rarely read anything on the subject of diseased and distorted spine with which I have been thoroughly satisfied. There is too often a vagueness and con-

fusion in the statements and descriptions which contrast unfavourably with the clearness and accuracy with which medical subjects are most usually treated. From these objections the abstract in question, perhaps not the original lecture, is far from being exempt. We have, for instance, in the third paragraph, the following passage:—"The affections of the spinal *cord* might be divided into two classes,—1. Those affecting the spinal marrow; and 2. Those implicating the bony structure and intervertebral substance alone." Affections of the spinal *cord* affecting the spinal marrow, has something very odd about it. For *cord*, we assuredly should read *column;* but that is a trifling, perhaps a typographical error. But for very evident reasons, reasons involving the most important practical considerations, the division ought to have been tripartite.

1. Affections or diseases of the spinal marrow and its investing membranes.
2. Diseases of the column itself, including the bones, ligaments, and intervertebral substance, and inducing or accompanied with posterior curvature.
3. Lateral or twisted curvature, not accompanied by, or productive of, disease or disorganisation.

This is a division of the highest possible importance, and not one of those minute subdivisions which lead only to slight modifications of practice. The distinction here drawn demands a place in the vestibule, or rather it ought to appear on the very threshold; that it has not so appeared has been the cause of many errors, some of which it has been my lot to witness. I have seen, for instance, patients with lateral curvature tormented and even rendered worse by blisters, issues, setons, &c., which never could have done any good. Amongst the thousands of medical practitioners and students we must not expect that all are capable of thinking for themselves; they will have done well who have collected and have learned to apply the accumulated wisdom of ages as it may be found in books, or as it is delivered from the lips of the professor; for these it is necessary that those who profess to instruct, whether from the chair or through the press, should place such important distinctions in the strongest point of view.

Scarcely less important is another common error which also pervades the abstract, that of confusing together, or rather of making an indiscriminate use of the words distortion and disease. Thus, the lecturer is made to say that Galen's remedies for distorted vertebral column were quiescence, recumbency, and counter-irritation; and he himself is made to insist on "physiological principles," upon "constitutional treatment," &c., for the cure of distorted spine. Constitutional treatment and counter-irritants for posterior curvature! Why, not a single hunchback was ever cured by such means. All the blue pills and gray powders, all the rhubarb, quinine, and sarsaparilla, together with all the iodine and camel's hair brushes in London, would be but thrown away upon it. They may be very useful as the means of curing DISEASE, but the word constantly used in the abstract is DISTORTION, and over this they can be of no avail.

Again, let me say that this is not a mere war of words; the author and the lecturer should be clear and explicit, or he will lead those to error who unthinkingly take him for their guide.

A surgeon of considerable practice and experience was desirous, a few days ago, of applying issues to the back of a young gentleman under my care, although every symptom of *disease* of the vertebral column has for some months disappeared.

Again, we have to complain of the loose and indefinite way in which the lecturer is made to speak of the disease or distortion, whatever it may be, which he professes so certainly to cure. For what is the patient to be laid on his back, and to have the strips of tincture of iodine applied? What was the state of the little boy in the borough, who, at three years old, had been cruelly subjected to "every variety of the mechanical treatment?" What, in short, is the nature, and what the extent, of the evils which are thus to be perfectly cured in the short space of six months? Is it simple inflammation of the bones, &c.? Is it posterior curvature with or without anchylosis? Is it caries? Is it abscess? Is it paralysis of the lower extremities? These matters ought to have been explicitly pointed out in the lecture, and to have been especially recorded in the abstract. The descriptions of the lecturer are heard only by a few, but the abstract in THE LANCET

will be read by thousands. It seems to me impossible that Mr. Thomson could have held out in any of the cases supposed the certainty of a cure in six months. He knows too well how many cases of such disease there are which will not yield in six months, whatever they may do in six years. Connected, as he allows them often to be, with scrofulous diathesis, there must, of course, be many cases that resist every attempt to cure.

I was called last autumn to the grand-daughter of one of the highest dignitaries of the church, who had had the first advice that London or the country could afford, who had lain flat on her back for nearly three years, until she was sinking into the grave, and who only changed her position in the hope (and she was not disappointed) that she might be saved during the last few weeks of her life from the terrible sufferings to which she had been long condemned. That incipient disease of the column in which there is not yet destruction of the parts, may be cured in six months, and even in a shorter time, I have many cases to prove; but the great body of the profession who, accustomed as they have been, to attack the enemy with the same weapons as Mr. Thomson, have frequently been baffled, and ultimately failed in their attempts, will agree with me in complaining of the tone and character of the abstract, which is positive only where some uncertainty must necessarily prevail, while it is confused and incorrect where clearness and exactitude were especially required.

Having thus pointed out my objections to the abstract, it is right that I should state that I agree with Mr. Thomson in preferring the milder counter-irritants, or rubefacients, either to the tortures of moxa, or the wasting discharge of setons and issues; and I also agree with him in considering collars and stays, and backwards and spinal supports, to be worse than useless, where the only safe mode of treatment must be based on a position affording perfect rest. I am, sir, &c., &c. —*Lancet.*

RESUSCITATION FROM DROWNING,

AND FROM ASPHYXIA BY GASES, ETC.

By John Hancock.

SIR:—It has long been a matter of doubt with me, whether, in case of drowning and suspended animation, sufficient attention is usually given to what may be considered a point of the first importance, namely, that of expelling the carbonic gas, as well as mucous and serous fluids, with which the pulmonary vessels and bronchia are ever replete in such cases. Little benefit, indeed, could rationally be expected from the injection of air into the lungs, whilst the air-tubes are choked up with colluvies, mucus, and foul air. But these impediments being removed, will admit the pabulum of life, the vital air, to exert its wonted stimulus on the blood, by coming into immediate contact with the sentient and irritable pulmonary tissue; and then, by the conjoint application of other powerful agents, especially electricity or galvanism, the best chance will be afforded for success. It is also a most material point to bring the more efficient resources into contemporaneous operation as soon as the above-named obstruction or impediments can be removed; for precious time is too often lost in making solitary essays, instead of bringing all our means at once into play.

Mr. Read, of Regent-circus, lately mentioned to me a fact in connection with the present subject, which I have since verified; and it brought to mind a similar one I witnessed in South America. In each case, it was a successful recovery from drowning by simple *exsugation*, or strongly sucking at the nostrils of the patient; and, from reflecting on these facts, I have been induced to offer the present remarks.

The case mentioned by Mr. Read was that of a youth (Henry Price) who, after being some time missed, was taken out of the water cold and quite inanimate, or without any sensible token of life. He was taken to the Wenlock Arms, City-road, where two medical gentlemen attended, and considered it a hopeless case; but a man in the bar-room asserted he could restore him; he was permit-

ted to try, and, closing the mouth of the apparently lifeless body, he sucked with all his might at the nostrils. In a short time, by this simple but rather repulsive process, animation was restored, to the great joy and surprise of all present; and that without any injection or forcing in of air.* This occurrence having been noticed in the public prints, led Mr. Read to construct an instrument, which he calls an *hydraulic respirator*, for performing the operation just mentioned in a more cleanly and more efficient manner; for injecting air either cold or warm, and either with or without an additional dose of oxygen. The instrument is also adapted for injecting warm or stimulating liquors into the stomach, as well as a stomach-pump in cases of poisoning; it is also fitted with an additional pipe, so as to serve as a most convenient enema syringe. Such an instrument, I am inclined to think, might, at times, be applied to the important purpose of preventing the suffocation of infants in hooping-cough and other bronchial affections, in which respiration is not unfrequently prevented by an accumulation of mucus, which the child has neither sense nor power to bring up. This, I believe, is generally the immediate cause of death in those infants who are destroyed by hooping-cough; the disease seldom proves fatal to those more advanced in years, who can make an exertion to bring up the mucus.† An instrument of this sort would likewise be available for giving respiration to *still-born* infants. The appliances of this apparatus appear, indeed, to be numerous and important; and such, I humbly conceive, as ought to recommend it to the attention of every professional gentleman and friend to humanity.

In cases of suspended animation, such as arise from submersion in water, or deleterious gases; from the carbonic acid, the choke damp, or *after-damp*, in coal mines, wells, &c., this instrument will serve to maintain an artificial respiration for any time required. A stroke or two of the piston exhausts the lungs, and immediately the air flows in, from the natural pressure of the atmosphere. The common method directed for exhausting the lung by pressing on the epigastrium, &c., produces only a partial expulsion of the contained air, and expels nothing of the mucus fluid which impedes the action of air on the blood through the pulmonary tissue. In those cases in which the usual means fail, we might try the effect of injections of nitrous oxide gas, the highly-exciting properties of which seem to give it peculiar claims to attention; and especially in conjunction with galvanic shocks, so applied as to act more immediately on the great sympathetic and ganglionic plexuses.—*Ibid.*

LACERATION OF THE PERINEUM

SUCCESFSULLY RESTORED BY OPERATION.

By Robert Davidson.

The distressing consequences of the accidents above named, and the want of success which has so frequently attended the attempts hitherto made to remedy it, render it a subject deeply interesting to the profession.

In a valuable paper read before the Academie Royale des Sciences, in January, 1834, to which I shall hereafter refer, Baron Roux remarks,—"English surgery, so eminent in many respects, has proved completely sterile on this subject."

I trust, therefore, a brief statement of a case in which I had the good fortune to succeed, will not be deemed unworthy a place in your valuable periodical.

The subject of this case was a lady about 29 years of age; the accident took place in her second accouchement. The laceration of the perineum was complete from the vulva to the anus, and extended from half to three-quarters of an inch into the recto-vaginal septum; the consequence of this was an involuntary dis-

* Another drowned person had previously been restored in this manner by the same man.

† This theory is altogether at variance with experience: children of eight, ten, twelve, or fifteen years of age frequently die of hooping-cough, or rather of the pulmonary inflammation which so often complicates the disease.

charge of fæces, to the great distress of the patient and her friends. Feeling much anxiety about the case, from the knowledge of the want of success which had so frequently attended the operation, I referred to the cases recorded on the subject.

The able memoir, by Baron Roux, before mentioned, fell under my notice, and as the result, in several cases, had proved so very satisfactory, I determined on adopting the plan he pursued,—that of the quilled suture,—with a little variation, which I will presently describe.

Having explained my views to Dr. Henry Davies, whom I had the pleasure to meet in consultation, he perfectly agreed with me on the method I proposed to adopt; and although only twelve days had elapsed since the accident, the patient was so anxious to have the operation performed, that I did not hesitate to do it, having had the bowels previously well opened by means of a purgative and enemas. On the 6th November, in company with Dr. Henry Davies, I performed the operation in the following manner:—I passed deeply a strong double ligature, by means of a common curved needle, close by the edge of the rectum, and another rather more than half an inch apart from the first, towards the vagina, after which I pared the edges of the wound, which I had not previously done, that I might not be annoyed by the oozing of blood, so as to be enabled to place the ligatures more accurately. The ligatures being introduced, I employed as cylinders, two pieces of elastic gum catheter, about an inch and a half in length, one of which was placed in the loops which the double ligatures formed on one side, and the other between their separate ends, tying them firmly upon the cylinders. Baron Roux found in his cases that the use of the quilled suture caused an eversion of the edges of the wound; to remedy this he had recourse to several small sutures, at different points, between the different ligatures. To effect the same object, and also with a view of keeping the divided parts more closely and firmly in contact, I adopted the following plan, the materials for which I had prepared previous to the operation. I armed a curved needle with a piece of narrow tape, four inches long, having a knot at one end; this was passed down each end of both cylinders about half an inch, and brought outwards, the tape being prevented slipping through by the knot; the tapes then were thus placed in such a position as to be intermediate to the ligatures; this being done I turned the cylinders gently towards the edge of the wound, and tied the corresponding tapes over it, which I think rendered it much more solid than any number of small ligatures could have done. After the completion of the operation there was so little tension of the parts that we thought it quite unnecessary to make the lateral incision so strongly recommended by M. Dieffenbach. The wound was dressed with simple dressing, and a roller applied to the knees to guard against involuntary motion during sleep. The mistura cretæ, with the liquor opii sedativus, was given daily to restrain the action of the bowels, and severe diet ordered, to such an extent that during seventeen days nothing was allowed but gruel, and that in small quantities, with occasionally a little hard biscuit. This treatment, however, the lady endured with the greatest patience and fortitude.

The urine was drawn off night and morning, which, as she lay on her side, with the thighs flexed on the body, was frequently attended with no small difficulty.

No untoward symptom occurred, and on the seventh morning the ligatures were removed, when it was found that firm union had taken place along the whole extent of the wound, with the exception of a small fistulous opening near the edge of the sphincter, having no communication with the rectum, and producing no inconvenience to the patient. After nine or ten days the *urine* was passed without assistance, the parts being guarded by a pledget of linen; the small fistulous opening was touched night and morning with tinct. cantharidis, and occasionally with argenti nitras, with the best possible effect.

On the seventeenth day no evacuation from the bowels having taken place, we administered a purgative draught and laxative enemas, which, producing no effect, were repeated; but so impacted had the fæcal matter become that there was much difficulty in accomplishing our object, so that we were obliged to have recourse to manual assistance. We were not without our fears as to the effect of

the action of the bowels on the newly-united parts, but the union was so firm as to sustain no injury. When regular action was established, she was allowed gradually to move about, and at the end of six or seven weeks she resumed her usual habits. During the whole time the infant was applied to the breasts at intervals, sufficient to relieve them, and keep up the lacteal secretion, as she was anxious to continue nursing.—*Ibid.*

CLIMATE OF BUENOS AYRES.

"THE GOOD AIRS."

I have been often asked whether the heats in the summer are not almost intolerable. On some days they are so; the glass perhaps above 90 degrees in the shade, and all nature gasping for air; but on those very days the most experienced of the natives will be clothed in warm woollens instead of linen jackets and trousers, for fear of catching cold.

During the greater part of the year the prevailing winds are northerly, which, passing over the marshy lands of Entre Rios, and then over the wide expanse of the Plata, imbibe their exhalations, and, by the time they reach the southern shores of the river, have a great influence upon the climate. Everything is damp; the mould stands upon the boots cleaned but yesterday; books become mildewed, and the keys rust in one's pocket. Good fires are the best preservatives; and I found them, if not absolutely necessary, at least very comfortable, during quite as many months as I should have had them in England; and yet I never, during nine years, saw snow, or ice thicker than a dollar, and the latter only once. Upon the bodily system the effect produced by this prevailing humidity is a general lassitude and relaxation: opening the pores of the skin, and inducing great liability to colds, sore throats, rheumatic affections, and all the consequences of checked perspiration; one of the best safeguards against which is doubtless the woollen clothing of the natives, of which I have already spoken; though they require it, perhaps, the more especially, because they seldom stir out of their houses in the extreme heat of the day; and it is at the time they do go out, when the sun has lost its power and the damps of evening are setting in, that such precautions are doubly necessary. Europeans at first are loth to take the same care of themselves; but sooner or later they discover that the natives are right, and insensibly fall into their ways. * * *

Though free from the malaria of the Mediterranean coasts, the sirocco of the Levant does not bring with it more disagreeable affections than the sultry viento norte, or north wind of Buenos Ayres; indeed, the irritability and ill-humours it excites in some people amount to little less than a temporary derangement of their moral faculties. It is a common thing to see men amongst the better classes shut themselves up in their houses during its continuance, and lay aside all business till it has passed; whilst among the lower orders it is a fact well known to the police, that cases of quarrelling and bloodshed are infinitely more frequent during the north wind than at any other time.

A VICTIM OF THE NORTH WIND.

Not many years back, a man named Garcia was executed for murder. He was a person of some education, esteemed by those who knew him, and, in general, rather remarkable than otherwise for the civility and amenity of his manners; his countenance was open and handsome, and his disposition frank and generous; but when the north wind set in he appeared to lose all command of himself, and such was his extreme irritability, that during its continuance he could hardly speak to any one in the street without quarrelling. In a conversation with my informant a few hours before his execution, he admitted that it was the third murder he had been guilty of, besides having been engaged in more than twenty fights with knives, in which he had both given and received many

serious wounds; but, he observed, it was the north wind, not he, that shed all this blood. When he rose from his bed in the morning, he said he was at once aware of its accursed influence upon him; a dull headache first, and then a feeling of impatience at every thing about him, would cause him to take umbrage even at the members of his own family on the most trivial occurrence. If he went abroad, his headache generally became worse, a heavy weight seemed to hang over his temples, he saw objects, as it were, through a cloud, and was hardly conscious where he went. He was fond of play, and if in such a mood a gambling-house was in his way, he seldom resisted the temptation; once there, any turn of ill luck would so irritate him, that the chances were he would insult some of the bystanders. Those who knew him, perhaps, would bear with his ill humours; but if unhappily he chanced to meet with a stranger disposed to resent his abuse, they seldom parted without bloodshed. Such was the account the wretched man gave of himself, and it was corroborated afterwards by his relations and friends; who added, that no sooner had the cause of his excitement passed away, than he would deplore his weakness, and never rested till he had sought out and made his peace with those whom he had hurt or offended.

A CHANGE OF WIND.—A PAMPERO.

But it is not the human constitution alone that is affected; the discomforts of the day are generally increased by the derangement of most of the household preparations. The meat turns putrid, the milk curdles, and even the bread which is baked whilst it lasts is frequently bad. Every one complains: and the only answer returned is—"Senor, es el viento norte."

All these miseries, however, are not without their remedy; when the sufferings of the natives are at their climax, the mercury will give the sure indication of a coming pampero, as the south-wester is called; on a sudden, a rustling breeze breaks through the stillness of the stagnant atmosphere, and in a few seconds sweeps away the incubus and all else before it. Originating in the snows of the Andes, the blast rushes with unbroken violence over the intermediate Pampas, and, ere it reaches Buenos Ayres, becomes often a hurricane.

A very different state of things then takes place: and, from the suddenness of such changes, the most ludicrous, though often serious accidents occur, particularly in the river; whither, of an evening especially, a great part of the population will resort to cool themselves during the hot weather. There they may be seen, hundreds and hundreds of men, women, and children, sitting together up to their necks in the water, just like so many frogs in a marsh; if a pampero breaks, as it often does, unexpectedly upon such an assembly, the scramble and confusion which ensues is better imagined than told: fortunate are those who may have taken an attendant to watch their clothes, for otherwise, long ere they can get out of the river, every article of dress is flying before the gale.

Not unfrequently the pampero is accompanied by clouds of dust from the parched pampas, so dense as to produce total darkness, in which I have known instances of bathers in the river being drowned ere they could find their way to the shore. I recollect on one of these occasions a gang of twenty convicts, who were working at the time in irons upon the beach, making their escape in the dark, not one of whom I believe was retaken. It is difficult to convey any idea of the strange effects of these dust-storms; day is changed to night, and nothing can exceed the temporary darkness produced by them, which I have known to last for a quarter of an hour in the middle of the day; very frequently they are laid by a heavy fall of rain, which, mingling with the clouds of dust as it pours down, forms literally a shower of mud. The sort of dirty pickle in which people appear after being caught in such a storm is indescribable. Sometimes the consequences are more serious, and the pampero is accompanied by the most terrific thunder and lightning; such, I believe, as is to be witnessed in no other part of the world, unless it be the Straits of Sunda. Nothing can be more appalling. In Azara may be read an account of nineteen persons killed by the lightning which fell in the city during one of these storms. But the atmosphere is effectually cleared: man breathes once more, and all nature seems to revive under the ex-

hilirating freshness of the gale:—the natives, good-humoured and thoughtless, laugh over the less serious consequences, and soon forget the worst; happy in the belief that, at any rate, they are free from the epidemical disorders of other regions. Still such variations from the ordinary courses of nature cannot but be productive of strange consequences; and, though the transient effects of an overcharged atmosphere may be quickly dispelled by a pampero, and the people be really free from the epidemics of other countries, there is every reason to believe that, in this particular climate, the human system is in a high degree susceptible of affections which elsewhere would not be deemed worth a moment's consideration. Besides those I have already spoken of as arising from the north wind, old wounds are found to burst out afresh, new ones are very difficult to heal; an apparently trivial sprain will induce a weakness of the part requiring years, perhaps, to recover from, as I know from my own experience; and lock-jaw from the most trifling accidents is so common as to constitute the cause of a very great portion of the deaths from hurts in the public hospitals.—*Buenos Ayres, and the Provinces of the Rio de la Plata, &c., by Sir Woodbine Parish, K. C. H, &c.*

[From the British and Foreign Medical Review, April, 1839.]

ON THE DIVISION OF THE STERNO-CLEIDO-MASTOID MUSCLE FOR THE CURE OF WRY-NECK.

By Professor Dieffenbach.

The great success of the operation lately introduced by Stromeyer for the cure of club-foot, has directed the attention of the profession to the benefit arising from the use of the knife in all cases of permanent contraction of the muscles. Professor Dieffenbach gives, in the paper before us, the outline of thirty-seven cases in which he divided the sterno-cleido-mastoid muscle, in one of which only the operation was unsuccessful.

The operation is thus performed. The patient being seated on a chair, one assistant draws the head towards the healthy side, whilst another depresses the shoulder of the affected side. The contracted muscle is in this manner brought to stand further out, and is seized between the thumb and forefinger of the left hand, and drawn powerfully downwards. A strongly-curved bistoury is now introduced behind the muscle, and pushed forwards till its point is felt beneath the skin on the other side of the muscle. The edge of the knife is then turned towards the muscle, and its fibres divided by withdrawing it, taking care not to injure the integuments. When the muscle of the left side is that which is to be divided, the knife is introduced in the triangular space formed by the two portions of the muscle about two inches above their insertion, and from this point first the anterior portion, and then, if necessary, the posterior portion is divided. When the contracted muscle is that of the right side, the knife is introduced between the trachea and muscle; the anterior portion is first divided, and then, from a second puncture between the two portions of the muscle, the posterior portion is separated. In the instant of withdrawing the knife the thumb is pressed firmly upon the wound, to prevent the extravasation of blood beneath the skin, and a compress is applied, which is retained in situ by strips of adhesive plaster and a bandage. Two cloths are passed round the neck, with a view to give support to the head, which is allowed to retain its wry position, partly in order to prevent the extravasation of blood, and partly to favour the reunion of the muscle.

In general the wound heals in a few days. There is generally some swelling over the part where the muscle was divided, and fluctuation is occasionally felt, owing to the extravasation of a small quantity of blood. In such a case the compress is applied more firmly, and stimulating embrocations are had recourse to. Sometimes, though very seldom, suppuration takes place; this accident calls merely for the evacuation of the pus, and the simple treatment of the wound.

In some of his first cases, Professor Dieffenbach employed various means of

extension, to bring back the head to its natural position; but he afterwards found a stiff collar of pasteboard, so constructed as, from the uneasiness it produced, to force the patient to turn the head in the contrary direction, quite sufficient to restore the natural position.

We shall give one or two of the cases, taken at random, as illustrations.

CASE I.—C. Meir, aged twenty-four, affected with congenital contraction of the sterno-mastoid muscle, producing strongly marked scoliosis. When thirteen years of age he began to wear a mechanical apparatus, which he continued for some years, but afterwards gave up, as the scoliosis continued to increase. Both insertions of the muscle were divided, and a compress and bandage applied as already described. Neither extravasation nor suppuration took place. The patient remained in bed ten days; gentle extension of the neck was then employed, and in three weeks the cure was complete, and the position of the head natural.

CASE XV.—Carl von Shuck, a very lively boy, had been treated according to the most approved system of orthopedy for a considerable time, without benefit. The muscle was divided; some days after the operation, fluctuation from extravasated blood was perceptible, but augmented pressure produced its absorption. At the end of six weeks the boy left Berlin perfectly straight.

CASE XXXVII.—A boy aged twelve. The right sterno-mastoid was very much contracted, and the head in consequence approximated to the shoulder. This patient had already been operated upon according to the older method; the muscle had been laid bare and afterwards divided, but the contraction returned as soon as the wound healed. The muscle was again divided according to the same method, and although means of extension were had recourse to during the cure, the contraction again returned. According to the report of the father of the patient, this treatment occupied three months. Owing to the induration and adhesions produced by the two former operations, Professor Dieffenbach found it necessary to divide the muscle near its middle. The after-treatment was as usual: no means of extension were used, simply the pasteboard collar. No extravasation or suppuration followed; the patient was able to go out five days after the operation, and the head regained its natural position.

Of the thirty-nine cases, nine were owing to contraction of the left, and thirty to contraction of the right sterno-mastoid muscle.—*Medicinische Zeitung*, No. 27. 1838.

ON A NEW AND SUCCESSFUL METHOD OF TREATING PROLAPSUS UTERI.

BY BENJAMIN PHILLIPS, F.R.S.,
Surgeon to the St. Marylebone Infirmary.

The object of the author in the present communication is to recommend a method which he has employed with success in bringing about a diminution in the calibre of the vagina in old cases of prolapsus uteri, and thus presenting an obstacle to the descent of the uterus. He relates the case of a patient in the St. Marylebone Infirmary, in whom the infirmity had existed for several years, and who had been unable to bear the irritation occasioned by pessaries of all shapes and of every material employed in supporting the womb. In this case the author succeeded in giving complete relief by destroying a portion of the mucous lining of the vagina by means of strong nitric acid. The contraction which ensued on the separation of the sloughs reduced the vagina to the size of that of a woman who had never borne children.—*Med. Gaz.*

BIBLIOGRAPHY.

New York Journal of Medicine and Surgery. No. I.

In a preceding part of our present number, the reader will have seen an article, on the Treatment of Fractures of the Extremities by the immovable apparatus, taken from our New York contemporary. We now propose to devote some additional space to a current notice of some of the other papers in this Journal. The initial one, "On the Progress of Medicine in America, by Dr. John Watson," is, as its title imports, quite 'a Summary View;' such a one as might interest and inform the general reader, but wanting a specification of those distinctive traits which would fix the attention of the professional one. Unintentionally, the writer makes New York the centre of his 'View:' the horizon of which latter is not so wide as to include all the persons and events of medical mark and moment in other regions of the United States. The sketch of the origin of the older Schools of Medicine on the Atlantic might advantageously have been extended to a notice of those of more recent birth in the South and West, as institutions which both indicate and influence the progress of medicine in America. Dudley is made to represent western surgery—a distinction which, however well he may merit it, is, in the present case, invidious and unjust to others who, like M'Dowell and Smith, have both ventured on, and performed with success, operations of which the records of European surgery contain few examples. In every view, even though a summary one of American medicine, the name of Drake,—the founder of the first medical school in Ohio, the historian of the climate, diseases, and natural history of that great state, and the energetic editor for years of a western medical journal,—ought to obtain a conspicuous mention. Nor can the historian, however brief his sketch, omit with propriety mention of the efforts made by South Carolina, through her schools at Charleston; by Georgia, through her school at Augusta; not to speak of the more recent demonstrations at New Orleans and Richmond. We do not claim the necessity of any thing like minute description of these and kindred institutions, but merely of an allusion to them, as cognate to the author's theme. After telling that it is not his intention, on the present occasion, to enter minutely into the history of our individual institutions, Dr. Watson makes some observations, in the justice of which most of his readers will, we dare say, concur:—

"Our *medical colleges*, which at the commencement of the present century were limited to four, have since increased to nearly thirty: an increase altogether uncalled for, and the effect of which has been rather injurious than beneficial. The free trade and no monopoly principles of Adam Smith, how beneficial soever in commerce, in those branches of industry to which he himself would have applied them, or in those occupations in which men may look directly to a full return of remuneration for his enterprise or labour, have a chilling and unkindly influence upon science: they should never have been extended to our halls of learning; and least of all, to a class of institutions, which in this, as in all other countries, require protection and encouragement rather than opposition.

"The facility with which charters can be obtained for medical schools in this country, and especially in this state, has had no good influence upon the profession. And the establishment of these in unknown villages, and in remote settlements scarcely yet reclaimed from the wilderness, where no infirmaries exist,

and where students have no opportunities for practical instruction, serves but to diminish the usefulness of older and better institutions.

"The efforts made by these woodland schools have another evil tendency. The inducements held out by them for individual patronage, are diminution in the expenses and in the period of study. Their requirements for graduation are consequently not sufficiently elevated; and in this way numbers of badly educated men are thrown upon the public. In our larger cities, however, where men of experience and varied professional acquirements can be obtained as professors; and where hospitals, infirmaries, and dispensaries, are at hand for clinical instruction, our colleges have always merited the respect and confidence of the profession."

Not intending any minute criticism, nor filling up of the omissions of Dr. W., we just advert to some of the points which, on a cursory perusal of his paper, more immediately appeared to us to be deficient. It would have been a fit completion of the notice of the prophylactic measures against small-pox adopted by Bolyston, for Dr. Watson to have mentioned, in terms of suitable commendation, the zeal and labours of a Waterhouse, who was the first in the United States to introduce the practice of vaccination. The propriety of citing Godman among the medical luminaries of New York, might well be contested. It was in Philadelphia that he took root after his transplantation from Baltimore, and in this city flourished for a period, too short, alas! for himself, and the profession of which he was an ornament; and here he bore those fruits, as a writer on natural history, and a teacher of anatomy, and writer on various points of general anatomy, on which his fame mainly rests. Hardly had he produced an impression by his first course of lectures in Rutgers' College in the city of New York, when that disease declared itself which, ere long, brought him to the tomb.

Why in the more than one emphatic notice of the triumphs of American surgery should the success of Dr. Randolph in lithotrity be omitted?

Imperfect, however, as is the 'Summary View' of the progress of American medicine, we see, it seems to us, in the manner in which Dr. Watson presents those topics which he has selected, as well as in the style in which he narrates them, evidence of his fitness to engage in a more extended and philosophic history; and to this task, if our advice were of any avail, we would recommend him to apply himself.

The second article of the Journal is the history of *an operation by excision of a bony tumour arising from the pelvis*, by J. Kearny Rodgers, with a lithographic plate. The operation, though completed without any surgical defect or omission, was followed by death, in twenty-two hours, from the shock and subsequent prostration of the nervous system.

Cases of sensitive tumours of the female urethra, with remarks, make the subject of the third article, by Dr. Alexander E. Hosack, which is calculated to add to our clinical knowledge of the matters discussed in it.

More elaborate is the fourth article by Dr. John A. Swett, entitled, *an Essay on Cancer of the Uterus*, "founded upon fifteen cases of the disease, more or less perfect in their details, collected during the last six years." Neither extracts nor a summary could convey a knowledge of the facts and arguments contained in Dr. Swett's paper, a careful perusal of which is required of those who have a special interest in the subject; and the number cannot be few.

The fifth article, "Observations on the Morbus Coxarius, by Dr. John G.

Adams;" conveys a lucid description of the pathology and treatment of this troublesome and tedious disease.

The sixth article is the history of "A case of Abstraction of the Uterus after Delivery, reported by Dr. John H. Griscom." The newspapers, at the time, gave an account of this case of horrid mismanagement of a woman in labour, through which the inverted uterus was mistaken for the placenta, and pulled and tugged at until, awful to relate! this organ was literally torn away amid the screams and agony of the poor patient. We shall give, hereafter, the particulars as reported by Dr. Griscom, together with some accounts of analogous cases which came to his knowledge.

Extirpation of a part of a Rib for Neuralgia, is the subject of the seventh article, by Dr. E. H. Dixon.

The subject of this case was a female, aged thirty-two years, who, two years before, had been overturned in a carriage, and received, among other injuries, which were of temporary duration, a contusion of the tenth rib of the left side, followed in a few weeks by a small, irregular projection of the part, which was exquisitely and constantly painful. Dr. Dixon believed this pain to be neuralgic in character. Cough, want of sleep, pain over the stomach, beginning at the projection which seemed to be near the sternal extremity of the rib, and extending forwards and upwards, without any permanent relief afforded by various treatment, induced him to remove the affected portion of this bone. This was done (October 16th, 1838) by a very cautious dissection, in which the cavity of the pleura was left unopened. There was nothing either peculiar or difficult in the operation; not a bad symptom ensued; the wound healed by adhesion in a week. The pain was removed instantly, and has not returned: the patient was examined by Dr. John Watson on the 15th of May, to whom she stated, "that she had gained twenty-three pounds of flesh, a sufficient evidence, that a severely irritating cause had been removed."

Under the head of 'Hospital Reports,' Dr. Shook, formerly resident physician at the New York Hospital, gives a *report of* cases *of remittent fever treated in the medical wards of that institution during the summer of* 1836; Dr. F. U. Johnston being the attending physician.

Dr. Shook, after adverting "to the great mortality which prevailed among the sailors arriving with remittent fever from the southern sections of the country, especially from the ports of Savannah, Ga., and Wilmington, N. C., these patients often dying within 24 hours after their admission into the hospital," proceeds to an investigation of "the merits of the *mild, stimulating, and supporting mode of treatment* pursued for many years by Dr. F. U. Johnston."

From the 1st of May to the 1st of October, 170 cases of fever were admitted, viz:

94	of remittent fever, of which - - - -	4 died.
47	of intermittent fever, - - - - -	0
20	of typhous fever, - - - - -	6
10	of typhoid fever, - - - - -	5

Of the 94 cases, more than 50 occurred in patients between the ages of 20 and 25 years; only 10 below the age of 20 years; 8 between the ages of 30 and 40 years: 2 above the age of 40 years. Of the whole number 48 were sailors, and

46 labourers in the city and its neighbourhood. "All the severe cases were admitted during the months of August and September."

Dr. Shook confines himself "to the 47 cases treated by Dr. F. U. Johnston, during the month of September, in which the course of treatment was the same, and not one case terminated fatally." Then follows the history of the symptoms and treatment of thirteen cases. We subjoin one of these:

"*Case I.*—James Smith, aged 30, farmer, admitted September 1, 1836, with the following symptoms:—

"Great prostration of strength; lies upon his back; countenance dejected; cheeks flushed; lips dry; tongue dry and coated, with a thick brown fur in the centre, moist at the tip and edges; constant thirst; aching pains all over the body; cephalalgia severe; pulse 100, no petechiæ, a few sudamina on the neck; abdomen distended, and somewhat painful to pressure; bowels have not been evacuated in two days.

"History.—This patient was attacked with the fever eight days before admission, while at work, as a farmer, in a low, marshy district a few miles from the city; the disease was ushered in by a chill, succeeded by flashes of heat; then pains in the limbs, great weakness, and loss of appetite.

"Says he had a slight chill, followed by heat and thirst, every morning and evening.

"Had taken no medicine before admission.

"Treatment.— September 1st, 1836. The patient entered the hospital last evening, and took a purgative of calomel and rhubarb; this morning feels better; bowels moved three times, free evacuations; fever during the night severe; skin hot, thirst intense, desires ice, mind excited, but not delirious. Directed the spirit of Mindererus; beef soup for diet; Dover's powder at bed-time.

"3d. Symptoms the same, except a more distinct remission of the fever this morning. Snake-root tea as a drink; and the spirit of Mindererus during the exacerbations of fever.

"4th. Patient complains of soreness at the epigastrium, pain and soreness in the back very severe towards evening, entirely removed in the morning; tongue remains dry; bowels evacuated once since yesterday.

"5th. This morning found the patient with a warm, soft, moist skin; tongue moist; pulse calm, 90; indeed all the febrile symptoms abated. Now, the patient was directed a grain of the sulphate of quinine every second hour, to be discontinued in the evening, if the fever recurs to any extent.

"Under this treatment the patient rapidly convalesced, and was discharged cured, Oct. 1, 1836."

The treatment in the twelve subsequent cases recorded by Dr. Shook is nearly the same as that just detailed: calomel with rhubarb, or some other mild purgative, such as rhubarb and magnesia, or castor oil to begin with; then spirits of Mindererus, Dover's powder, snake-root tea, animal broths, and porter; and quinine in completion.

Dr. Shook, in some remarks appended to these cases, says, "I am aware that tonics have been given in the stage of convalescence from remittent fever, but the administration of wine, quinine, serpentaria and nourishing soup, to a patient with a dry, harsh, cracked tongue, dry hot skin, pulse 110, severe aching pains of the limbs, and delirium without any previous depletion, is a practice not so common." It certainly *is* not, though it once, and that not a long time ago, *was* a practice common enough:—of its propriety in general, we shall want much more corroborative evidence than that, plausible as it is, which is furnished by Dr. Shook. We have seen this, not new, practice tried in cases similar to those he records, but with results which were far from satisfactory.

It would appear from the autopsies of two cases, as well as "from the symptoms of most of the patients, that the stomach, liver, and spleen, suffer more in remittent fever than in typhus or typhoid."

Dr. Shook, in his remarks on *typhus* fever, mentions the appearance of *petechiæ* mostly upon the abdomen and chest, after the eighth or ninth day. "The eruption of *sudamina*, or minute transparent vesicles, was observed about the neck and groins; but this eruption was the same in typhoid fever, and in many of the severe cases of remittent fever. The cerebral symptoms were the most characteristic of typhus fever; stupor was perceptible from the time they were attacked with the disease, and continued until convalescence; when this stupor amounted to complete coma, the case terminated fatally: though deafness attended every case, the patient could be aroused by a loud tone of voice.

"Subsultus was observed in most cases. The abdomen was not much affected by pressure, but a singular sensibility of the skin existed, which was observed in all the cases; the urine was high-coloured and scanty: the pulse varied from 90 to 120; when above 125 it was a fatal symptom."

The disease seemed to Dr. Shook, in all the twenty cases, notwithstanding a careful treatment adapted to every symptom, to run a definite course. Most of them were complicated with inflammation of some particular organ, — the lungs and brain suffering most. Respecting the duration of the disease, Dr. S. informs us, that most of the cases were under treatment for about thirty days.

"There was not the same uniformity of lesions observed in typhus fever as in typhoid, or in remittent fever." In the five cases examined, "the *clustered glands of Peyer were in every instance normal;* whereas, in the cases of typhoid fever they were all more or less affected."

Of the ten cases of *typhoid fever*, Dr. Shook remarks, that "the symptoms and anatomical lesions all resembled each other:" [resemblance between symptoms and lesions?] "but differed very materially from those of remittent and typhus fevers. It is the form of fever which has been so common at Paris, and which has been studied with extreme accuracy by Louis and Chomel. Dr. Gerhard, [then] of the Philadelphia Hospital, has given a very able report of the same fever as witnessed by him during the Summer of 1835–6,* showing that the disease differs very much from true typhus, or typhus gravior, ship or jail fever; also showing, from a number of cases examined after death, that the disease is identical with that witnessed at Paris, called typhoid fever, typhoid affection, or, from its anatomical character, dothenenteritis, (all names belonging to one disease)."

The glands of Peyer were extensively ulcerated in the two cases of which the *post mortem* appearances are detailed. "In both cases, and in all the cases of recovery, tympanitis was recognised by the great resonance on percussion; but a remarkable fact to be noticed in all the cases is, that the severity of the abdominal symptoms was not equal to the extent of the lesions observed after death; the pain upon pressure is no more than that observed in remittent fever where no ulcerations exist."

Of the forty-seven cases of intermittent fever the treatment was the same in every case. More than two-thirds of the patients had been attacked before—some

* See the *Eclectic Journal*, Vol I. p. 24-7 and 65-9, for a digest of M. Chomel's views and treatment of typhoid fever; and p. 430-6 of the same volume, for an analysis of Dr. Gerhard's paper on typhus fever.

of them five or six times. The prevailing type of the disease was the tertian: there were but three patients affected with the quotidian type. We subjoin the account of the treatment:—

"Immediately after admission the patient was ordered a cathartic, commonly rhubarb and calomel; and the following day he commenced taking one grain of the sulphate of quinine every second hour, until just before the expected paroxysm, when he was ordered to take from 3 to 5 grains. If this treatment did not arrest the paroxysm, it was sure to mitigate its severity, and lessen its duration. The same treatment was repeated the following day. When the paroxysms were arrested, the patient was directed to take half a grain of the quinine every second hour for fourteen days. If this medicine was discontinued before this period, the disease would return in some instances, but the paroxysms would soon cease again on resuming its use."

The next report is that of the treatment of fractures, &c., which has already been transferred to our pages.

Following this, is an elaborate article entitled, "Researches on the Tubercular Disease of the Bones, by A. Nelaton, M.D. Translated from the French, by Charles R. King, M.D." This should be regarded as a valuable contribution to pathology.

In another department of the new Journal we have 'Bibliographical Notices,' some of them full and explicit; others meagre in the extreme. The Elements of the Practice of Medicine, by Dr. Reid of Edinburgh, a book of 573 octavo pages, for example, is dismissed with a notice of nine lines, and of these but three are expressive of its general and only general merits. In the short article on Elliotson's Lectures on the Theory and Practice of Medicine recently published, (pp. 744, 8vo.,) the notice *ad rem* consists of the following: "His written lectures are, however, full of facts; are enriched by excellent descriptions of disease; abounding in pathological knowledge, and correct principles of treatment." The work of Deslandes on *Masturbation, Self-Pollution, &c.*, is thus summarily noticed: "This work abounds in important facts, but they are not well arranged." The reader of a bibliographical notice of a work of any pith, has a right to expect something more copious and distinctive than that which might be fitted for a bookseller's advertisement.

We are aware that this critique may, at times, react on ourselves; but we consent to whatever is implied in it of censure for the sake of the general principle. It is offered now, also, with the less reserve, because the writer of the bald notices above-mentioned has the knowledge and talent to enable him to give the desired fulness and point.

'*Scientific Intelligence*' heads the last department of the New York Journal. In this we read accounts of the *Proceedings of the New York Medical and Surgical Society—Extracts from the Minutes of the Kappa Lambda Society—City Inspector's Report*—Dr. Randolph's *Memoir of Dr. Physick—Two Cases of Lithotrity* by Alban G. Smith, M.D.—*Abstraction of the Uterus.*

The idea of introducing proceedings of the different medical societies is a 'good one;' and we are not a little pleased to see that the doings of the Kappa Lambda, in the form of reports of cases of interest by different members, take up nearly fourteen closely printed pages;—no symptoms these of treasons, stratagems and spoils, with which it has been, within the year, intemperately charged in a New York pamphlet.

Memorial de l'Art des Accouchemens, ou Principes Fondés sur la Pratique de l'Hospice de la Maternité de Paris, et sur celle des plus celebres Praticiens Nationaux et Etrangers, suivis, 1, des Aphorismes de Mauriceau; 2, d'une serie de 143 Gravures representant le Mécanisme de toutes les especes d'Accouchemens; la composition de l'Œuf Humain, etc. Ouvrage placé par decision Ministerielle, au rang des livres classiques à l'usage des eleves de l'Ecole d' Accouchement de Paris. Par Madame Ve Boivin, ex-Maitresse Sage Femme; Surveillante en chef de l'Hospice de la Maternité et de la Maison Royale de Santé, etc, etc. Docteur en Medicine de l'Universitè de Marbourg, etc,, etc., etc. Quatrieme edition. Corrigée et considerablement augmentée dans le Texte, dans les Gravures et surtout de six Tables Synoptiques offrant le precis de 24, 214 faits de pratique. En Deux Parties.

A Summary of the Art of Midwifery: or principles based on the Practice of the Lying-in Hospital at Paris; and on that of the most celebrated practitioners, as well French as Foreign; followed by the Aphorisms of Mauriceau, and a series of engravings, 143 in number, representing the mechanism of all the kinds of Labour, the organization of the Human Ovum, &c. A work placed by governmental decision among the text books for the use of the pupils of the Midwifery School of Paris. By Madame Ve Boivin, formerly first Midwife, and now chief superintendant of the Lying-in Hospital, and of the Royal Maison de Santé, &c., &c. Doctor of Medicine of the University of Marbourg, &c., &c., &c. Fourth Edition. Corrrected and enlarged, both in the text and the engravings, and especially by the addition of six synoptical tables, presenting the result of 24,214 cases of Midwifery. In two Parts. Part First, pp. 526. Part Second, 143 plates, with letter press explanations.

The author of this work has long obtained that which her countrymen term, as an evidence of extended fame, '*une reputation vraiment Européenne*'—a European reputation. Of late years Madame Boivin is beginning to be known also to the American medical reader for her '*Practical treatise* on the *Diseases of the Uterus and of its appendages;*' and her '*Inquiries into the most frequent causes of Abortion;*' '*A new treatise on Hæmorrhage*,' *&c., &c.* We do not mean to say that our professional brethren of this country have acquired a knowledge of this lady's works either by direct access to them in the original, or through the means of good translations; but merely that they have seen notices and extracts in the Journals calculated to make them aware of her actual position in the world of midwifery, and of the deference paid to her opinion on all points connected with the obstetric art, and the organic and functional derangements of the uterine system.

The present work is a plain practical summary of midwifery, written with great clearness, and an adaptation to the wants of the student. Terms, even of common professional use, are defined before they are made the themes for description: and the indications to be fulfilled in each particular case are laid down with precision and brevity.

Under the head of Constipation, Section VI. of the Chapter on the *Attentions to be paid to Pregnant Women*, we read—"Constipation is the too long retention of stercoral matters in the rectum; it may occur in all the periods of pregnancy.—*Causes.* During the first months, weakness or atony of the alimentary canal. In the latter months, a compression by the uterus on the colon and rectum.

Effects of Constipation. Sleeplessness, headache, uncomfortable feeling of

heat; hæmorrhoids, and sometimes abortion, in consequence of the efforts to procure a stool.

1st *Indication.* In the first variety of constipation, to excite the action of the intestines by tonics, such as the infusion of rhubarb, and of bitter or aromatic plants; a few spoonfuls of Malaga wine; pastils of cinchona or of catechu.

2d *Indication.* If the belly be only bound occasionally, to make use of laxatives, such as emollient clysters, with the addition of two or three drachms of castor oil, or four spoonfuls of olive oil: the juice of prunes, barley water sweetened with honey, a vegetable regimen, boiled vegetables, ripe fruits.

3d *Indication.* If constipation is habitual with the woman, she should use veal, or chicken, or vegetable broth; a vegetable regimen."

We believe that the experienced practitioner will admit that the above directions, though plain and simple, are more applicable and available for either the prevention or safe removal of the costiveness of pregnant women than the prescription the aloetic, or compound aloetic pill, either by the box or the *pint*, or even of magnesia and salts, or of castor oil *ad libitum*, without any clear and precise rules of regimen for the sufferer. If we compare the section on this subject by Burns, in which not a word is said respecting the proper articles of food, or on regimen at all, with that given above, the award will be in favour of the French midwife. Dr. Dewees, however, does not commit the oversight of the Scotch professor, but lays becoming stress on dietetic measures, and specifies some of the articles of food which his experience had shown him to be beneficial in such cases.

Clearness, method, and brevity, are the more distinctive qualities, and constitute the recommendation of Madame Boivin's work, which owed its first publication, twenty-four years ago, to the discriminating kindness of the celebrated Chaussier, himself distinguished for his knowledge and skill in the obstetric art, as he was undeniably, for his vast learning and originality, in physiology and legal medicine.

Chaussier, who was at that time chief physician to the Lying-in Hospital, (*Hospice de la Maternité*) saw Madame Boivin, who was also officially connected with this institution as chief midwife, engaged in making drawings of the child in its different stages of uterine life. He looked over the accompanying text, and requested of Madame Boivin to place both it and the drawings at his disposal. Both were accordingly handed over to him, and at the end of a twelvemonth returned to the author, accompanied by engravings on wood of all the drawings, and a receipt from the engraver, together with an invitation to publish her manuscript, which she avers was not originally prepared with any such view.

In a hospital like that of the *Maternité*, with the daily and almost hourly charge of parturient females, and opportunities for observing the periods of gestation, and the kind and duration of labour, and assisted by the counsel and opinions of the most distinguished men in the department of obstetrics, Madame Boivin could not fail to become familiarised with all the occurrences of child-birth and of pregnancy, and to be prepared for meeting every emergency with a display of the requisite skill and tact. When a person enjoying these advantages has the talent of description and becomes author, novelty is seldom the prominent trait displayed; still less do we expect to find speculative disquisitions on the uncertain and the doubtful, or obscure descriptions of known and regular events. In the present case we have not the history of an individual, but of a class, or at least of so large a number

that it will include the particular cases which come under the notice of the general practitioner. After the rejection of whatever is extraneous and adventitious, there should remain a clear, concise statement of phenomena, healthy and morbid in the order in which they occur, a specification of mechanism as it really exists, and a direction in the choice and use of means which are fit and available to aid, or retard, or prevent, as the exigencies of the case may require.

Such is the kind of record, such the picture which the student requires for his guidance and observation. It was by its possessing merits of this nature, that Chaussier was favourably impressed with Madame Boivin's 'Memorial,' and that the minister of the interior, through the representations of the general council of the hospitals of Paris, was induced to declare it to be one of the regular books for the perusal and instruction of the pupils admitted to the lectures of the *Maternité.* The work introduced to the public under such favourable auspices, has, it would seem, well maintained its 'vantage ground—evidence of which is given by the fact of its having reached a fourth edition. That a good translation would be well received by the American medical reader, both student and practitioner, we can hardly doubt.

The titles of the several chapters and sections of Madame Boivin's summary need not be given on this occasion; since, as we have already said, there are, in respect to general division and arrangement, no pretensions to novelty; though solid claims might be urged in favour of a clear demonstration of the parts more especially concerned in labour, and of plain practical precepts for conducting it, whether it be simple or complicated, to a happy termination.

The plates, of which, with letter-press explanation, the second part is made up, represent, in successive series, the pelvis under different aspects, and in reference to its diameter, axes, and straits; the regions of the abdomen, and the relative situation of its viscera; the uterus in its anterior and posterior face, and its cavity in its natural state, and the same organ when developed during pregnancy and after delivery; as, also, the appearance of its organic alterations, and the embryo products after abortion, the organization of the fœtus at maturity, and the different diameters of the fœtal head. After these we find representations of the mechanism of natural labour, including, 1st, the various positions of the head and its evolutions in the progress from the superior strait to its expulsion through the *os externum;* 2d, of the feet, in all the varieties of presentation and stage of expulsion, and of the assistance rendered by the hand of the accoucheur; 3d, of the knees in their different positions; 4th, of the hips similarly varied. To these succeed views of unnatural labour, including the presentations, in succession, of the summit of the head, face, neck, chest, belly, thighs, occiput, cervix or nucha, back, loins, right and left sides of the head, right and left shoulders respectively, right and left side, right and left hip. Then come plates of twins, and of their position relatively to each other *in utero.* After these, are exhibitions of the mode of applying and using the forceps, and of the positions of the child which require the instrument.

The volume of text, or the '*Memorial*' itself, consists in the original of 526 pages, which, with 16 of introductory matter make 542. Supposing an English version to take up the same space, the whole might be included in less than 300 pages of our 'Library.' The plates are printed on one side of the leaf only, and of octavo size, which would make the second part occupy necessarily

the space of 286 pages, each plate taking up the front page of a leaf. On a page like that of our's, the better plan would be either to print enlarged engravings, or to put two of the present size on it. But this is mere speculation on our part. To give it reality we ought to be able to procure—1st, a good translation; 2d, room in the Library, no easy matter just now; and 3dly, the consent of our publishers to have the engravings copied, which we should have great misgivings in asking, after their very liberal, we were going to say, lavish expenditure in this way for the last two years, some of which is yet to be made visible to our readers.

Outlines of Physiology: With an Appendix on Phrenology. By P. M. ROGET, M.D., Secretary to the Royal Society, Professor of Physiology in the Royal Institution of Great Britain, &c., &c. First American Edition. Revised, with numerous Notes. Philadelphia: Lea & Blanchard. 1839. pp. 516. 8vo.

These 'Outlines' were originally written for the article Physiology in the Encyclopædia Britannica. They are a pleasant, well written summary of the functions of the animal economy, excepting always those of the brain, which organ, or congeries of organs, Dr. Roget would lead us to suppose is not endowed with functions, at least with any beyond those of sensibility and motility. Of the five hundred and sixteen pages of which the present volume consists, about thirty-five are given to "General Views," and "the applications of Physiology" to Zoology, Geology, and Natural Theology; three hundred and twenty to what the author would probably call the Physiology of Man; eighty-five to Comparative Physiology; and the concluding fifty-eight pages in smaller type, in the shape of an Appendix, to Phrenology.

Doctor Roget makes frequent reference to his Bridgewater Treatise, which he has more fully turned to account in the division of Comparative Physiology,—the most attractive and only distinctive part of the 'Outlines.' It is this which will commend them to the general reader, and which gives them the only superior claims on the student of medicine over other treatises, systems, or elements of physiology.

The additions, in the form of notes, by the American Editor, though not numerous, are pertinent and well written. His references to other works, in illustration of the text are copious; and to Doctor Dunglison's Physiology, singularly, some might say unnecessarily, frequent.

The preface of the American Editor terminates with the following paragraph:—

"In phrenology the author is a well-known unbeliever, and his published objections to the doctrine have been regarded as too cogent to be permitted to pass unheeded. It will be seen, that further examination in the interval of many years, which has elapsed since the publication of the sixth edition of the Encyclopædia, has not induced him to modify his sentiments on this head. On the contrary, he appears to be satisfied at this time, of the fallacy of the positions of the phrenologist as he was at any former period."

On this continued unbelief of Doctor Roget we shall offer for the present only a few remarks, but they will be to the point. Time is said to be the grand revealer. It is only so, however, to those who keep their senses awake, and attentive to the changes which are taking place around them. Rip Van Winkle, after the long interval of twenty years which elapsed, during his repose in Sleepy

Hollow, was not a whit the wiser, by time's changes and revolutions, than when he first entered it. He went to sleep a loyal subject of King George, and he announced himself in the same feeling of loyalty after he had awoke;—not aware of the scenes at Bunker Hill, and Saratoga, and Yorktown, and that Congress and Washington had taken the place of the British parliament and British king. Doctor Roget has, also, had his twenty years of sleep, as far as regards entire obscuration of his senses and mind to the facts and arguments respecting phrenology. He wrote the article Cranioscopy for the Encyclopædia Britannica in 1818, and from that time to the year 1838, he dismissed the subject from his mind, neither reading nor studying anything connected with it.* After the lapse of twenty years of revolutions and reforms among physiologists, ethical writers, and critics, induced by phrenology, Doctor Roget is awakened by his friend Mr. Napier, the editor of the Encylopædia, with a request that he would revise his article on Cranioscopy for a new edition of that work. What should he do at this time? Inquire among his neighbours and friends, and look at journals and books for the present state of phrenology, and the history of its additions and changes during the above period? No! he preferred to repeat the old opinions and objections, with a mere change of title, substituting Phrenology for Cranioscopy; just as Rip Van Winkle repeated his old expressions of loyalty, and asked for his old friends, on his reappearance at the tavern, over which the sign of Washington had been substituted, in the interim, for that of King George. Doctor Roget's present essay is a literal reprint of that written twenty years before;—with some few additions forced on him by the criticisms and strictures of Mr. George Combe, and of his brother Dr. Andrew Combe.

The continued unbelief of Doctor Roget is *not* the result of 'farther examination,' and hence it is no very strong evidence either of the weakness of the positions of phrenology or of his own philosophical impartiality and industry. We give, therefore, his friends and those who disbelieve with him all the merit to which the fact of unbelief is entitled. His utter indifference in regard to the lights which comparative anatomy, and pathology, and the observations made by different writers and teachers, have thrown on phrenology during the last twenty years, contrasts oddly enough with his belief respecting the additions and modifications demanded after the same interval of time for his article on Physiology, as expressed in the opening sentence of his Preface, which we here subjoin:—

"So great and so numerous are the improvements which physiology in all its departments has received since the period of the publication of the former edition of the Encyclopædia Britannica, that it was deemed necessary by the Editor to give, in the present edition, an entirely new treatise on that subject."

We learn, then, the grounds on which we should properly attach a higher value to the present 'Outlines of Physiology'—the article for the Encyclopædia, written in 1838, over that on the same subject written in 1818. Does it require any learned judge to show, by this same rule and practice of Doctor Roget himself, the little authority which his total disregard of the 'great' and 'numerous' improvements which phrenology has received since the period of the former edition of his article, will impart to his opinions and prejudices on the subject.

The bulk of the present volume is doubtless intended to be outlines of human physiology, but so little does Doctor Roget seem to consider the study of the

* This was the acknowledgment made by Doctor Roget himself in the spring of 1838.

functions of the brain as illustrative of the faculties of the mind, that all his remarks on this subject, under the head of "Psychological Relations of the Sensorium," are summed up in two pages. One of the paragraphs of this section runs thus:—

"749. The brain has been very justly regarded as the organ of the mind; that is, the corporeal instrument invariably employed in the operations of the mind. This is a necessary corollary from the proposition that no mental operation can take place without the co-existence of some physical change in the brain. But a second proposition, the converse of the former, has been advanced; namely, that the mental operations are the 'functions of the brain.' But the latter proposition would be true only, on the supposition that the physical change in the brain, and the corresponding mental change of which we are conscious, are one and the same thing. Until this fundamental doctrine of materialism, namely, the identity of matter and mind be proved, we cannot include, under the functions of the brain, both the mental changes and the corporeal changes. The physiological office or function of the brain is the production of certain corporeal changes, connected in some inexplicable manner with certain mental changes; which two classes of changes are of their nature, as far as we are capable of forming any conceptions of them, radically and essentially different from each other."

After the annunciation of a plain truth, that the brain "is the corporeal instrument invariably employed in the operations of the mind," we might have expected from the author some inferences of a physiological nature,—tending to show the modifications which this instrument undergoes, and what connexion there is displayed between these and the operations of the mind. In place of this, Doctor Roget forthwith indulges in metaphysical casuistry, by supposing a postulatum to be of necessity claimed by phrenologists, which is, after all, not required for the elucidation of the problem. As well might he allege that, until the identity of matter and life be proved, we cannot include, under the functions of the nervous system, both the sensorial changes and the corporeal changes. Sensation has as little obvious or understood connexion with, or relation to matter, as mind has to it; and hence all that is required of the practical philosopher, the honest inquirer after truth, is to note the circumstances under which phenomena, vital and mental, are evinced through certain states and forms of matter. He is not obliged to demonstrate the identity of life and matter, or of mind and matter. If the brain be an instrument, as it is admitted to be by Doctor Roget, must we stop short at this elementary truth, and not attempt to arrive at a knowledge of the combinations, by noting the effects of the various states and changes of the instrument. Had similar restrictions been imposed upon physiology in general, by reducing each function to an abstraction, in place of a careful observation of the successive vital phenomena produced by the modifications imprinted on the organ, it is not difficult to say what would be the state of physiological science at this time. But this procedure, which we have just supposed in the form of a question, with a view to showing its absurdity, was, in fact, at one time approved, and of general adoption. Animal spirits, *vis vitæ*, *archæus*, *&c.*, once constituted part of the current language of physiology. Learned men, the oracles of the day, thought it beneath them to study functions in any other way than by using this vocabulary: and now who values their speculations, who is swayed by them? Even so will pass away, ere long, the scholastic dogmas of the sect to which Doctor Roget attaches himself; and it will be a matter of wonder that men should ever have wasted their energies by such laborious trifling as to speculate on the operations of mind, while they turned away from, and utterly refused to study, mind's instrument or organ, as such.

The Lectures of Sir Astley Cooper, Bart., F.R.S., Surgeon to the King, &c. *On the Principles and Practice of Surgery, with additional Notes and Cases.* By Frederick Tyrrel, Esq., Surgeon to St. Thomas's Hospital and to the London Ophthalmic Infirmary. Fifth American, from the last London Edition. Complete in one vol. Philadelphia: Haswell, Barrington & Haswell, 293 Market street.—New Orleans: Alexander Towar. 1839. pp. 580. 8vo. With Four Plates.

The publication and sale of four editions of Sir Astley Cooper's Lectures in the United States, are a sufficient recommendation of the fifth, now introduced, by the Messrs. Haswells & Barrington, to the notice of the profession. It has been the good fortune of this popular lecturer, and successful and dexterous operator, to secure the favourable opinion of most teachers of surgery, however different from each other may be their notions on many questions of the principles of their art. This has been owing to the practical turn which Sir Astley gives to his lectures and writings generally, and to the easy and natural style in which they are conveyed.

As it will be thought by many readers superfluous labour to indicate the contents of this volume, we shall merely say, that the Lectures are forty-five in number, and that they treat, in succession, of the chief injuries of the body which require surgical aid—beginning with *Irritation* and *Inflammation*, and ending with *Dislocations;*—some of the intermediate subjects being *Wounds of the Brain*, *Diseases of the Breast*, *Operation of Lithotomy*, *Hydrocele*, *Amputation*, *Hernia*, *Wounds of the Arteries*, *&c.*, *&c.*

MEDICAL SCHOOLS.

Jefferson Medical College.—We were prevented by the pressure of various matters from noticing, in our last number, the measures which had been adopted by the government of this institution. For a while, all the chairs were vacated by a resolution of the Board of Trustees, and—filled again by the former incumbents, except those of *Materia Medica* and of *Surgery;* to the first of which, Dr. Robert M. Huston, and to the second, Dr. Joseph Pancoast has been appointed.

Hampden Sydney College—Medical Department.—By a published catalogue, we learn that there were forty-six students in attendance on the Lectures of the Medical Faculty in Richmond, during the session of 1838–9; and that the degree of Doctor of Medicine was conferred on thirteen candidates, at the commencement held on the 4th of April last.

Vermont Medical College.—This institution has been constituted an Independent Medical College by an act of the legislature passed in October, 1835. An important feature in its construction is a *Board of Examiners*, (distinct from the Medical Faculty,) which is appointed annually by the Justices of the Supreme Court. The lecture term of the Vermont Medical College is thirteen weeks; too short by half. Dr. Palmer's *Anniversary Address* to the class of graduates of the above institution, delivered June 12th, 1839, contains good advice, delivered with commendable brevity.

Washington University of Baltimore.—In the 'Annual Circular' we are told that the Washington Medical College of Baltimore is authorised, by an act of the *General Assembly of Maryland*, 'to constitute, appoint, and annex to itself the other three colleges or faculties, viz. the Faculty of Law, the Faculty of Divinity, the Faculty of the Arts and the Sciences, and such academies or preparing school or schools, as may be deemed essential to the support and maintenance of said colleges or faculties."

The present officers and their successors of the Washington Medical College "are empowered to make and pass all such by-laws as may be necessary for the good government and regulation of the *Washington University of Baltimore.*"

The degree of Doctor of Medicine was conferred on seventeen candidates, and the honorary degree of medicine on Professor T. B. Offat, of the University of Vincennes, and George W. Andrews, of Baltimore. The matriculating list of last session (for 1838–9) numbers fifty-three.

An extension has lately been given to the hospital department connected with the college, by which clinical instruction, of a satisfactory nature, will be insured throughout the year. The fortunes of the Washington Medical College are evidently in the ascendant.

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GALVANIC EXPERIMENTS ON A BODY RECENTLY DEAD.

The following is, simply, a brief record taken, on the spot, of galvanic experiments on the body of James Williams, a coloured man, in the Moyamensing Prison, August 9th, 1839, made by Doctors Horner and Mitchell, in the presence of a number of medical gentlemen, including Dr. William Klapp, physician to the prison, and other citizens. Dr. Hare, aided by Dr. Rodgers, gave his attention towards arranging in a proper manner the various apparatus which it was proposed to use on the occasion, viz., the large galvanic battery, (trough and plates,) Henry's coil, and the electro-magnetiser.

Williams the convict, and whose body was the subject of the experiments, was hung in the prison-yard at half-past one o'clock, and was brought into the room in which they were to be performed at two o'clock, by the watch of the reporter, (Dr. Bell).

The successive stages of each experiment were proposed to be—1st, the application of the round galvanic poles to the surface of the body; 2dly, of points inserted into the tissues beneath the skin, and 3dly, of the poles to parts exposed by incision of the teguments and subjacent tissues.

Experiment I.—So soon as the body was laid on the table, viz., at two o'clock, P.M., the positive pole, connected with the large galvanic battery of two hundred and fifty plates, was placed on the left side of the neck, and the negative pole on the same side at the hypochondriac region, and also at times on the right;—being alternately brought in contact with the skin, and withdrawn. The effect was, strong efforts at respiration by the movement of the muscles of the chest, and of those of the mouth and nose, imitating inspiration.

The positive pole was then placed on the forehead, and the negative on the left side of the chest, with the effect of the production of movements of the eyelids.

The poles were afterwards placed, the positive on the left side of the neck, and the negative on the left knee and the left iliac region; producing movements of the left limbs, upper and lower, and of the muscles of the thorax.

Experiment II.—Points were inserted; that of the positive pole on the left side of the neck, and of the negative on the left side under the margin of the seventh rib. Sparks of fire, in fact a small flame, issued from the positive point on its insertion into the teguments, which were partially burnt. No marked result.

The poles were placed, the one (positive) on the skin, over the *supra-orbitar nerve*, and the negative on the side at the margin of lower rib;—causing convulsive movements of the muscles of the face. Blunt or round poles, it is observed, have more effect than points.

Experiment III.—The upper wire from Henry's coil was inserted into the

neck, and the other one under the ribs;—there followed twitchings about the shoulder. Same experiment with the substitution of the electro-magnetic apparatus, but no result manifested.

These preliminary experiments having been gone through, Drs. Horner and Mitchell then proceeded to make those which they had noted down by prior agreement.

Experiment I.—At a quarter-past two the *phrenic nerve*, on the left side of the neck, was laid bare by Dr. Horner, who applied the positive pole to it, whilst Dr. Mitchell placed the negative one on an incision opposite the seventh rib on the left side. There followed contraction of the muscles of the shoulder and arm, and of those of the chest.

Experiment II.—The *par vagum* in the neck was exposed and the positive pole applied to it, whilst the negative was placed on the side over the rib as in the preceding experiment. Contraction of the muscles of the face, and partially of those of the chest, ensued.

Experiment III.—The *sympathetic nerve* was exposed, and insulated by placing under it the handle of a scalpel. The positive pole was then applied to it, and the other to the side as before. No result.

Experiment IV.—The positive pole was placed on the skin of the forehead, and negative on the side;—with the effect of producing a contraction of the muscles of the face, and causing the left arm to be thrown up. On placing the negative pole on the arm, and applying it in quick succession to different spots, a strong movement of flexion of the limb followed; and the same, but in less degree, when the negative pole was applied along the outside of the arm;—there was a working of the fingers; and the right arm, when touched with the pole, was thrown across the chest, and various other movements of the arm and hand were exhibited. The fingers were extended when the back of the hand was touched with the negative pole.

The positive pole being applied to the back of the neck, and the negative run along the leg,—caused movements of the muscles of the limb, but not of an active kind. An incision being made on the back part of the neck, the positive pole introduced, and the negative applied to the leg as before, from spot to spot, there ensued some movements of the muscles of the limb. On fixing the negative pole a tremor of the muscles of the limb was produced.

Experiment V.—The positive pole on the back of the head, and the negative on the face, there followed contraction of the eyelids.

The positive being put on the incision on the back of the neck, and the negative on the forehead, caused contraction of the muscles of the face.

Experiment VI.—The poles were reversed—the positive being put on the epigastrium, and the negative on the back of the neck and face; some movements followed the successive applications of the positive pole, the other being kept on the part.

Experiment VII.—Half-past two. *Sciatic nerve* in the ham exposed, and the handle of a scalpel placed under it. The positive pole was placed on the back of the neck, and the negative on the nerve. Strong contraction of the limb and hip ensued. Contractions nearly as strong, and more diffused, were obtained when the negative pole was applied to the uncut skin of the limb.

Experiment VIII.—A pointed wire insulated, except at its extremity, by twine wrapped round it, was carried down to the spinal marrow a little below the

occiput, and being brought in relation with the positive pole, whilst the negative was applied to the sciatic, there followed contraction of the muscles of the face, and some action of the posterior muscles, and, as before, of the muscles of the thigh of the exposed nerve.

Experiment IX.—Twenty minutes to three o'clock. The scalp behind and a part of the occipital bone were removed, as also the membranes beneath, and the posterior portions of the *cerebrum* and *cerebellum* were exposed. The insulated wire of the positive pole was applied to the upper surface of the *corpus callosum* and the negative to the lower limb as before;—strong contraction of the muscles of the face followed. Positive pole was applied to the posterior part of the lobes of the cerebrum; effect less strong. Application to the surface of the cerebellum was followed by a movement of some of the muscles of the limb (thigh), but not of those of the face.

Experiment X.—The *medulla oblongata* was exposed (encephalo-spinal fluid in considerable quantity); the point, as before, of the positive pole inserted into it, and the negative applied to the sciatic nerve. There followed slight contraction of the zygomatic and of the muscles of the thigh. The poles were next inverted; the negative being applied to the cerebellum, and the positive to the surface over the lower end of the *medulla spinalis*, without any sensible effect resulting.

Ten minutes to three o'clock.—Posterior extremity of right hemisphere of the cerebrum and the sciatic nerve brought into connexion:—the positive pole being applied to the former, the negative to the latter. Effect: a little contraction of the muscles of the hip. The positive pole was transferred to the cerebellum, negative as before,—with the production of contraction of the muscles of the leg and hip.

Experiment XI.—The *supra-orbitar* nerve of the right side was exposed, and the positive point applied to it, whilst the negative pole was rubbed over the left side of the face. There followed contraction of the side of the face, which was still more manifest when the pole was transferred from the nerve to the flap which was hanging over the eye, and which had been made to expose the nerve. No contraction followed the application of the pole to the bone of the cheek.

Experiment XII.—The abdomen having been opened and its contents exposed, the positive pole was placed on the sympathetic in the neck, and the negative on the intestines, but without any visible effect.

The *par vagum* on the left side was touched by the positive pole, and the fore-arm and leg of the same side by the negative. Active contraction (flexion) of the arm, still more powerful and sustained on the right arm when the negative pole was transferred to it: the extensors were little affected by the application of this pole to them. The poles on the *par vagum* and the stomach produced no effect.

Three o'clock.—Galvanic fluid was passed from the *par vagum* to the diaphragm without any motion of the diaphragm. Some contraction followed the application of the positive pole to the skin of the neck. Fluid direct from the *par vagum* to the heart without effect. From the surface of the skin of the neck to the heart —no contraction of this latter.

Experiment XIII.—The *axillary plexus* of the right side was laid bare, and the positive pole applied to it; and when the negative touched the skin of the wrist there was a contraction of the flexor muscles of the part.

Experiment XIV.—The passage of the fluid from the skin of the neck to the

ventricles of the heart was not followed by any contraction of these latter. When the negative pole was applied to the right auricle, the positive being as before, there was an evident movement of this part.

STATE OF THE ORGANS ON AN EXAMINATION MADE AT THIS TIME.

Lungs.—Tubercles were found in the inferior lobe of the right lung. Adhesion of the left to the thorax; and large vomica in the superior lobe of this side, and tuberculous alterations in the substance of the lower lobe.

Stomach.—A division, similar to that called hour-glass contraction, was very manifest in the stomach; the left being the large sac-like and distended portion,—the right was like an intestine. The mucous coat exhibited numerous rugæ, and was of a light but not uniformly diffused pink colour; in its appearance throughout it was natural. The man had lived well of late on what the physician termed a generous diet; but he drank no spirits nor wine. Water had been his beverage. The food taken at breakfast had undergone, in good measure, the digestive process. The *liver* was healthy—*spleen* the same.

The *heart* was of a natural appearance if we except a slight hypertrophy of the left ventricle, which, as well as the right, was empty of blood. No contractility of its muscular fibres was evinced by means of the galvanic fluid; whereas, at this time, the muscles of the limbs were made to contract by this agency;—one pole being applied on the head, and the other to the limb.

The sympathetic nerve was laid bare on the right side about the middle cervical ganglion, and the positive pole applied to it, and the negative to the heart, but without any contraction resulting. The course of the fluid directed from the ganglion to the arm gave a slight contractile movement to the muscles of this limb.

The vertebræ of the neck, and junction of the atlas with the occiput, were examined; no dislocation at these parts.

Tapetum of the eye quite distinct;—as was also the spot of Sœmmering, but of a slightly greenish hue.

At four o'clock, or two hours and a half after death, there was still marked contraction of the cut muscles of the chest, and movements of flexion of the arms on the applying the negative pole to these parts.

[As it is the intention of Drs. Horner and Mitchell to prepare a "Paper" on the subject, we forbear making any remarks, for the present, on these experiments. —Ed. *Eclec. Jour.*]

DRY AND MOIST VAPOUR BATHS.*

Proposals for establishing Polythermæ at New York, Philadelphia, &c.

The author of a short treatise on the efficacy of vapour baths having politely placed his manuscript at our disposal for a few days, we avail of the opportunity to direct the attention of our readers to the subject.

We pass over the first chapter in which mention is made of the antiquity of

* Notice Historique sur les Thermes ou Bains des Anciens et sur les Etuves Orientales et Russes, &c. &c. Par P. A.—— Membre de la Legion d'Honneur et de l'Institut Royale des deux Siciles.

A Historical Notice of the Thermal Baths of the Ancients; and of the Vapour Baths of the East, and of Russia, &c., &c.

warm and vapour baths, and of their extended use in ancient times, particularly among the Romans; and subsequently in our own day by the Asiatics and the Russians. On this subject we have ourselves given copious details in a work, (Bell on Baths and Mineral Waters,) to which we would refer the reader.

In the second chapter of the manuscript before us we read an account of the introduction, abolition, and restoration of vapour baths in western Europe. It would seem that in all the European provinces of the then Roman empire,—Spain, Gaul, Germany, and Britain,—vapour bathing was general, and continued to be so after the eruption of the barbarians, and the divisions of power and arrangements of polity such as characterise their modern history. In the fourteenth century, in the reign of Charles V. of France, a physician was in danger of being stoned to death by the people for having recommended the vapour baths to be closed. So great was the number of these establishments in Paris, that the persons who superintended them and rendered the necessary services, constituted no inconsiderable part of the population under the name of *etuvistes* (*stovers?*). Public criers invited the persons in the streets to bathe, *estuver*, without delay, as the baths were then heated.

Sauval, who wrote about the middle of the seventeenth century, says, "towards the end of the fifteenth century vapour baths were so common in both Paris and London, that they were met with every few steps one could take."

But with changes in customs, and improvements in inner clothing, and probably, also, from abuses of the practice itself, the vapour baths were afterwards neglected, and finally all closed.

To the war between Napoleon and Russia is western Europe indebted, if for nothing else, to the introduction of vapour baths. Russian soldiers having constructed them in the north of Prussia, where they had been in cantonments, some of the Prussian physicians were induced to observe the effects of this, to them, new fashion of bathing. Soon they began to note its effects, and the cure of diseases, such as rheumatism, cutaneous and nervous affections, brought about by its agency; and they were not slow in giving vogue through Germany, by means of various publications, to vapour baths. The King of Prussia caused one of them to be constructed in his palace at Potsdam; and in 1818, the Princess Marianne, sister-in-law of this sovereign, was present at the opening of the first public vapour bath in Berlin, and allowed it to receive her name.

Doctors Reil, Schmidt, and Mangold, Prussian physicians, are cited by the author of the 'Notice' in confirmation both of the safety of vapour baths for hygienic use, and of their efficacy for the treatment of disease. Dr. Schmidt says, that his own son, not quite six years old, is never happier than when taken to one of them; and adds, that they are equally beneficial to subjects in advanced age as to those in early childhood.

In all seasons they may be, as they are in Russia and other countries in Asia, used with decided advantage. It is a vulgar error, contradicted by general experience, that the use of vapour or of warm bathing in general is contraindicated in winter, as disposing those who bathe to contract colds. The very reverse is the case.

Ten years ago there were not more than four establishments in Paris, in which it was possible to take, comfortably or otherwise, either the Russian or the Egyptian

bath.* The return of Dr. Pariset from his philanthropic mission in Egypt was the signal for a revolution of opinion in favour of oriental baths. Among the establishments created under his immediate direction were the splendid *Neothermæ*, in which were copied to every particular the luxurious appliances and ornaments of the Egyptian bath.

M. Andriel about the same time constructed two vapour baths, as specimens, on a small scale, in which either the Oriental or the Russian practice could be adopted. Four months afterwards, such was the affluence of people of both sexes to these latter, in order to enjoy the pleasures of bathing, that another on a larger scale, but on the same plan, was erected in one of the most frequented quarters of Paris, (*Rue Montmatre*). As might be naturally inferred, these baths attracted the notice of the Parisian medical faculty, several of the more distinguished of whom bore testimony to the curative powers of vapour bathing. Strengthened by such authority, the number of these establishments is rapidly increasing in Paris ; and from present appearances they will, ere long, be as numerous in that capital as they were during the fourteenth century. The conquest of Algiers, and intercourse with that city, in which the vapour bath is the only kind used, will contribute not a little towards this result.

The remedial powers of vapour baths are next specified by the author of the notice, who adduces his own experience of their good effects in the Asiatic cholera at Marseilles in 1835.

Then follows a reply to obviate the objections made against the introduction of vapour baths into the United States. We deem it needless to repeat any of these objections, which are founded either in ignorance or aversion to any innovation. The practice of using a (moist) vapour bath is not unknown to, and has always been occasionally tried by the aborigines of this continent: it has also of late years been much followed by the Thompsonians, but with such an ignorance of the operation of the remedy, and of the state of the system in which it is most beneficial, as to induce strong prejudices in the minds of many against the practice. But physicians above all others ought to bear in mind, that neither the ignorance nor malpractice of other portions of the community justify apathy to or neglect of any and all suitable therapeutic agencies, such as unquestionably under proper restrictions vapour bathing is. As a hygienic agent, the experience of entire nations for a succession of ages is clearly in favour of vapour bathing, both dry and moist. Of its detergent and purifying effects, any person who has ever made trial of it on himself, or seen it used on others, cannot possibly entertain a doubt; when he sees the large quantity of exuviæ, in the form of the external coating of the skin and oleaginous and perspirable matter, which is detached after exposure to the vapour bath and subsequent friction. Its superiority in this way is great over that kind of bathing which consists in immersion of the body in either simple or medicated water of any temperature whatever. Not less unquestionable is its soothing, grateful, and refreshing influence on the nervous system and brain, and through these on the mind and senses generally.

Americans who have travelled in Turkey and in the East, as well as a smaller number who have been in northern Africa, all attest from their own personal ex-

* The Russian is the moist vapour bath ; the Egyptian and oriental, the dry vapour or hot air one. For ample details in the arrangement of these different kinds of bath we would refer to the work (Bell on Baths and Mineral Waters) already mentioned.

perience the pleasant and healthy effects of the vapour bath, especially with its appropriate accompaniments and aids in subsequent ablutions of the surface by water of any required temperature, and friction, strigillation, and shampooing. After these latter processes are gone through, the individual who has been subjected to them experiences a renovation of his strength, and of all his bodily powers, and a refreshment of mind and feeling, which, on the score of mere economy of time, by greater fitness for the discharge of his duties, ought to recommend vapour bathing to every member of the community, from the day labourer to the man of letters and the statesman.

Even if great and prolonged experience were not in evidence of the salutary tendency of this kind of bath, the plainest elementary precepts of physiology are in favour of its use; since they inculcate the paramount importance of preserving the skin clean, soft, and clear of all obstruction, which accumulated perspirable matter constantly given out in a single day would cause. With the skin, the lungs, stomach, and kidneys more directly sympathise, and on the healthy state of the first will greatly depend a similar state of these last mentioned organs.

Of all hospitals and infirmaries, the vapour bath ought to be an indispensable part. We should be safe, also, in asserting that it ought to be attached to every establishment in which a number of persons habitually reside, as in schools, colleges,&c. It would be a fitting measure, worthy of the wisdom of municipal governments, if they were to provide for the erection of these baths on a large but not extravagant scale, to which citizens generally should have access on the payment of a small sum.

In the mean time, however, a portion of this community can secure for itself at once the advantages and pleasures of vapour bathing, by aiding M. Andriel to carry into effect the plan which is detailed in his notice, by the erection of suitable edifices. This gentleman has, we learn, already purchased a house in the vicinity of Washington Square, and will proceed at an early day to make the necessary changes in it for warm baths, and dry and moist vapour ones.

BELLADONNA BY ENEMA IN CONSTIPATION WITH COLIC.

To the Editor of the Select Medical Library and Eclectic Journal of Medicine:

DEAR SIR:—If the following case presents any feature of interest to the profession, you are at liberty to publish it in your excellent Journal.

Yours, truly, A. B. PRICE, M.D.

Centreville, Mont. Co., O., August, 1839.

May 8th.—Was called on to visit Jacob Thomas; found him suffering from severe paroxysm of pain in the epigastric region, recurring at intervals of about fifteen or twenty minutes; paroxysms generally terminated by vomiting, after which he remains comparatively easy until the accession of another paroxysm. Retraction of the abdomen, body arched forwards, cannot straighten himself; pulse small and frequent; skin cool, complains of feeling chilly; very restless, no soreness of the abdomen, tongue coated white. Informs me that for the last four years has been subject to such attacks during the summer season, and that he is exempt during the winter; attributes it to over-exertion in the harvest field. The disease is very obstinate, seldom yielding under a week; says that he has been bled, blistered, purged, and narcotized, but without much benefit; thinks

that venesection affords more relief than anything else: constipation extreme. I began the treatment by exhibiting 2 tea-spoonsful of liquor morphiæ sulphatis of the U. S. Dispensatory, combined with 2 of tinct. asafœtida, hourly; sinapism and fomentations to the abdomen. This course was continued ten hours. I then gave him 4 grains of calomel and 4 of opium, and left him at midnight.

May 9th, A.M.—Partial mitigation of the pain, skin cool, pulse rather fuller than yesterday: very thirsty. Bled him freely, left an emulsion of croton oil, dose a tablespoonful every two hours until operated on. If no relief of the symptoms by 1 P.M., to have the following injection:—Fol. Belladonna, ℥ss.; aqua, 12 tablespoonsful; infuse an hour. Half of this and a half pint of infusion of flaxseed as an injection: to be repeated in an hour if not relieved of pain.

Visited him again at 6 P.M. Found him under the influence of the belladonna; pupil dilated, head dizzy, face a fiery red, pulse full and strong, skin hot, partial loss of locomotion, difficulty of speech, vision illusory and indistinct, slightly delirious, but answers rationally; entirely free from pain. The first injection completely relieved him of pain, but they imprudently gave him the second, soon after which the above symptoms commenced. Nothing has passed the bowels but the injection. Venesection, 16 oz.: croton emulsion to be continued; senna tea; injection of vinegar and water; drink of the same, and to be freely sponged with it.

10 A.M.—The effects of the narcotic continued till this morning, a period of about 18 hours: considerable nausea; pulse and skin natural; tongue furred and yellow; bowels still constipated: gave an injection of salt and water, which brought away a large mass of indurated fæces: left calomel 2 grs., to be given hourly, to be washed down by an infusion of senna; large sinapism to the abdomen.

Evening.—Better; bowels freely moved; convalescing.

August 10th.—Was called on again to visit the same man: found him suffering severely from the same disease; has been unwell for two days; bowels constipated, and in all respects as above detailed. I pursued for about 48 hours the most energetic means generally resorted to in colic—such as venesection, large doses of narcotics and antispasmodics, regularly and persistently given, fomentations, sinapisms, &c., but without any good or permanent effect resulting. I then determined to resort to the belladonna again, and accordingly prepared and gave him one injection as above, which entirely relieved him in half an hour. The above constitutional effects were produced, but in a less degree. Catharsis was easily obtained by salts and senna: speedy recovery.

Remarks.—I was induced to try the belladonna in the above case from having read an article in the 2d vol. *of the Eclectic Journal of Medicine*, p. 12, in which it was recommended and used with success in ileus by Dr. Wagner; and from the patient informing me that he had experienced but little relief from the common course of practice. The attacks formerly seemed to wear themselves out, (to use a common phrase,) the duration of an attack being commonly from one to two weeks—convalescence slow.

The excellency of the remedy was especially manifested in the last attack, as he had been energetically treated in the ordinary way for forty-eight hours without any or but partial benefit resulting, when the clyster was given; thus clearly

showing that it possesses eminent power as an antispasmodic in this class of affections.

I forgot to mention that among the remedies which he took into the stomach was the infusion of belladonna, of which a tablespoonful was given hourly for nine hours, but without any effect. But half the quantity introduced into the rectum relieved him in half an hour. He is now on a preventive course of treatment.

THE WOURALI POISON.

HYDROPHOBIA.

The existence of this truly fatal poison has long been known to Europeans through the fabulous accounts that were given of it by a few individuals communicating in trade with the Red Indians of Guiana; but so exaggerated were the statements considered that, when the British government superseded the Dutch by the capitulation of Demerara, several unsuccessful attempts were made to ascertain the facts. Amongst others who undertook to obtain information was Mr. Waterton, of Walton Hall, near Wakefield, a gentleman of good property, who determined, through a pure love of science, to explore the interior of Guiana, and by personal investigation to learn the nature and quality of this deadly composition. He quitted the town of Demerara in the month of April, 1812, and penetrated through the wilds and paradises of South America, inland, the distance of 800 miles, to the territory of the Macoushi Indians, who are considered the best manufacturers of this Wourali poison, making it much stronger than any of the other tribes, who, though they make much of it themselves, yet purchase a greater portion from the Macoushies. Mr. Waterton remained 120 days in the solitudes of Guiana: he collected a great quantity of the poison: had repeated opportunities of witnessing its manufacture, and many more of testing its effects. In his "Wanderings," he observes:—

"A day or two before the Macoushi Indian prepares his poison, he goes into the forest in quest of his ingredients. A vine grows in these wilds which is called Wourali. It is from this that the poison takes its name and it is the principal ingredient. When he has procured enough of this, he digs up a root of a very bitter taste, ties them together, and then looks about for two kinds of bulbous plants which contain a green and glutinous juice. He fills a little quake, which he carries on his back, with the stalks of these; and, lastly, ranges up and down till he finds two species of ants. One of them is very large and black, and so venomous that its sting produces a fever; it is most commonly to be met with on the ground. The other is a little red ant, which stings like a nettle, and generally has its nest under the leaf of a shrub."

To these ingredients are superadded the strongest Indian pepper and the pounded fangs of the Labarri snake, as well as those of the Counacouchi snake. The former of these reptiles is generally about eight feet long, is of a speckled dirty-brown colour, and when coiled up or motionless may be mistaken for a piece of dried bush-rope, and can scarcely be distinguished from the clayey ground on which he loves to lie. On the convex side, near the points of the fang, there is a narrow convex aperture, having a communication right down the fang to the root, where, in a little bag, the poison is contained. A pressure on the point of the fang produces a corresponding pressure of the root upon the bag, and forces up a portion of the venom, which is thick and yellow, resembling strong chamomile tea. This snake is one of the most poisonous in Guiana, and its bite causes death in a very few minutes. The Counacouchi, when full grown, measures from fourteen to fifteen feet—the colours of his body are most beautiful, displaying all the hues of the rainbow, and he is equally fierce in his desperate assaults on man or beast; nor are his own species exempt from his attacks. His poison is still more deadly and fatal than the Labarri, and the Indian finds great difficulty in killing him, on account of his undaunted bravery and resistance.

Having procured these ingredients, the wourali vine and bitter roots are scraped into thin shavings, and placed in a kind of colander made of large leaves; water is then poured upon them, and a dark liquor strains through into an earthen pot. The bruised bulbous stalks are then squeezed through the hands into the pot till a proportionate quantity of that kind of fluid is obtained. The venomous ants, the snakes' fangs, and the hot pepper are then bruised together and thrown amongst the rest; the pot is placed over a slow fire, and, when boiling, more of the juice of the Wourali is added, and the scum is lightly removed from the surface of the liquid by a leaf; it is kept in this state, simmering over the fire, till it is reduced to a thick syrup of a deep brown colour; experiments are then made to try its strength, and, if it is found to answer their expectations, it is carefully preserved dry in a covered vessel.

Incantations and charms are deemed requisite during the progress of manufacture: females are not allowed to be present. The shed where it is boiled is abandoned for ever as polluted, and the Indian frequently undergoes ablution. The generally received opinion of those who have had opportunities of investigating the matter is, that the vegetable ingredients are only necessary to convey the poison through the frame, though it certainly is by no means improbable that they may, by their combination, possess similar qualities to strychnine.

The wourali is the Indian's gunpowder, with which he pursues his game; the arrow is a small shaft of hard wood, about ten inches long, and about one inch of the point is coated with the poison—the other end is wadded round with cotton till its size fills the hollow of the long tube through which it is to be blown. The Indian can send one of these arrows from his blow-pipe to the height of 300 feet, and, as he seldom misses his aim, the feathered tribe are soon brought to the ground, the poison taking effect in a few minutes, the slightest wound being sufficient for the purpose. In large game the smaller arrow is attached to one of about five feet in length, which is discharged from a bow, and generally aimed at the shoulder; the short poisoned arrow, being cut half through, breaks off from the long one: the stag or wild boar bounds forward, the Indian follows, and is sure to find his victim at 150 or 200 yards from the place where he received his wound. The flesh receives no detriment from the poison, and is sweet and wholesome food, nor does it even in this hot climate cause any speedier decomposition of animal matter.

Various trials have been made of the strength of this poison, and it has been ascertained that the quantity must be proportioned to the strength of the animal. Three-coated spikes were introduced in various parts of a large ox, each spike being sufficient for a wild hog; they began to operate in about six minutes, and in twenty-five minutes the creature was quite dead. The meat was eaten and found to be very savoury and sweet. So much for what has taken place in Demerara, where we have repeatedly seen the experiment tried both by medical men and the Indians, and life become extinct according to the quantity infused. Soon after Mr. Waterton's return, the faculty of the metropolis were desirous of witnessing the effects of this deadly combination: an ass was inoculated with it, and expired in twelve minutes. Another was introduced, and a ligature was bound very tightly around the leg above which the poisoned spike was introduced. The creature experienced no ill effects—walked about without manifesting the slightest suffering—ate and drank freely, and continued thus in his usual state of health for an hour. At the expiration of that time the bandage was removed, and in ten minutes the animal was dead. Thus far the fatal nature of the poison was fully proved; and then it became a matter of question whether any antidote could be found to counteract its deadly effects. The Indians assert that holding the wounded animal for a considerable time up to the mouth in water will defeat the deleterious quality—also the juice of the sugar-cane, poured freely down the throat: but though repeatedly tried they have been wholly ineffectual. Artificial respiration was then thought of, and tried upon a she-ass, that expired in about twenty minutes; an incision was made in the windpipe, and the nozzle of a common pair of bellows introduced; the ass manifested symptoms of recovery—held up her head and looked around; the artificial respiration was discontinued, and the creature again sunk into apparent death. The artificial breathing was

recommenced and continued without intermission for two hours; at the expiration of which time the creature rose up and walked about without any symptoms of agitation or pain. The wound, in which the poison had been introduced was healed without difficulty, but the animal's constitution had received so severe a shock that it was twelve months before she completely recovered, but lived no less than twenty-three years afterwards, enjoying, at perfect ease, the fine park-land attached to Walton Hall, and died at the age of twenty-seven.

The experiment of resuscitation having succeeded, it was very natural to suppose that efforts would be made to turn it to advantage; for it was conjectured that, if existence could thus be destroyed and restored again, the destruction of existence might also remove local or organic disease, and the artificial respiration produce a new life in every sense of the term. The first trial of this was made by Mr. Sewell, an eminent veterinary surgeon of London, on a horse labouring under tetanus or locked-jaw. He looked upon this disease in horses as induced by extreme irritation of the nervous system, and therefore conjectured that, as the wourali poison suppressed all nervous power, it might, if properly administered, remove the lock-jaw, and animation be restored again by artificial respiration. Accordingly the poison was inserted in the fleshy part of the shoulder, and in ten minutes apparent death was produced. Artificial respiration was commenced and persevered in for four hours, when reanimation took place; the animal rose up, and though, previous to the operation, his jaws had been fast locked, and his mouth too firmly closed to admit the introduction of either food or medicine, yet now all symptoms had disappeared, and he eagerly fed on hay and corn.

Here then was at once a most satisfactory proof of the efficacy of this very curious and certainly, at first consideration, hazardous mode of treatment; but, unluckily for a perfect confirmation of its wonderful effects, the horse thus recovered was too abundantly supplied with food during the night, and the consequence was an over-distension of the stomach, of which the horse died the following day, without, however, having the slightest recurrence of tetanic symptoms. Other attempts have been made, at various times, to destroy and restore animals, most of which have succeeded; but we are not aware of any experiment similar to that made by Mr. Sewell having been practised.

Mr. Waterton has in his possession a great quantity of the wourali poison preserved in bladders of lard, so as to exclude the air; and suggestions have been made that, if it has proved efficacious in nervous diseases of animals, it may also be used with good effect in nervous diseases of the human frame; and, as hydrophobia is of this class, whether, by first destroying the nervous powers, and then restoring life by artificial respiration, this horrible infliction might not be defeated.

A sub-inspector of the night-watch at Nottingham was bitten by a strange dog some few weeks ago, and though the wound, which was on the nose, was very slight and immediately cauterised, yet he was attacked with hydrophobia in its worst form, and Mr. Waterton was sent for to try the wourali. That gentleman, with his accustomed humanity, promptly attended, but, before his arrival, the poor fellow had expired. The surgical and medical profession of Nottingham, ever desirous for information, requested Mr. Waterton to exhibit the powers of the wourali—this he consented to do; and about the middle of April last he revisited Nottingham for this express purpose. A large room, formerly used as a medical school, was set apart for the occasion, which, from improper arrangement, was soon so overcrowded as to render the operation of restoring animation much more difficult on account of the heated state of the atmosphere.

First, a brindled dog of good size was brought in, and an incision being made in the animal's left side, an arrow spike, covered with the poison, was introduced into the wound; for a quarter of an hour it manifested no symptoms of distress or uneasiness, but moved about as if nothing was the matter: at the expiration of that time, however, the action of the heart became irregular and tumultuous; the pulse rose to 130, irregular and intermitting; in 34 minutes the dog showed indications of distress by convulsive twitchings and feebleness of the legs; in two minutes more the poison (a rather strong infusion) acted powerfully—the convulsions were constant, though not violent; the pupils of the eye became

greatly dilated, and the animal, after staggering a little, looked lethargic and fell down; the arrow-head was then withdrawn, and no traces of the poison remained upon it, the whole having been absorbed. The respiration became extremely difficult: the struggling increased; and, at the expiration of 52 minutes from the first insertion of the poison, the animal was dead. In five minutes afterwards the body was opened—the heart was found full of fluid blood, and, on being pricked with the point of a scalpel, gave not the slightest indication of irritability.

A she ass, nearly fourteen years of age, and in very poor condition, was the next brought forward, and, previous to operating, the action of the heart was regular—the pulse at 62. At six minutes past nine in the morning a lateral incision was made in the neck of the ass, near the right shoulder, and an arrow-head, thickly coated with the poison, inserted into the wound.

At 9h. 12m. the pulse was at 60, and continued uninterruptedly the same for five or six minutes longer, when it began to increase.

At 9h. 20m. the pulse was irregular, and had risen to 72, the respirations at 14 in a minute. At this time the pupils of the eyes were becoming dilated.

At 9h. 32m. the pulse was still at 72, the animal manifesting symptoms of uneasiness.

At 9h. 36m. the pulse had risen to 84, and the creature repeatedly lifted its fore-legs, which trembled, and the next minute it fell down, being exactly 31 minutes from the time of introducing the poison. There was a slight struggling, but the muscular power soon ceased. The pulsation was imperceptible, except a slight fluttering at the heart, and animation appeared to be extinct.

The animal was then raised upon a table. An opening was immediately made in the trachea, and at 9h. 41m. artificial respiration was commenced.

In all other experiments that had hitherto been made nothing more than a common pair of bellows had been used: and professional gentlemen will readily perceive, not only the unhandiness of the instrument, but the injury that must be caused to the trachea by such constant removals. In the present case, Mr. Sibson, the resident surgeon of the general hospital, provided a tin tube, with a bend of about four inches, to be inserted in the wind-pipe, over which was a pad to strap close to the throat, and then about nine inches of the tube projected from the neck.

A double-acting pair of bellows was securely fixed, and to the nozzle of which was fastened a pipe of leather, which, having a metal ferule at the other end, was applied to the tin tube, but easily removed on the instant. The bellows, on being plied, kept up a constant current of air, and the pad being drawn pretty tight over the wound, there could be no escape. Five operators are required,—one to keep the bellows going, another to the leathern pipe, a third to confine and keep the nostrils closed, and two others to the body of the animal. The wind is forced by the bellows through the leathern pipe and tin tube, down the trachea into the lungs: the leathern pipe is then withdrawn from the tin tube at C, and the two at the body again press out the wind, which escapes at C, the nostrils being entirely stopped. The repetition of this process must be equal to from 14 to 16 times in a minute; so that some idea may be formed of the incessant labour required. It has already been said, that at 9h. 41m. natural respiration entirely ceased, and artificial respiration was commenced.

At 9h. 44m. the pulsations became once more distinct, as high as 72, and continued varying for seven hours, from 56 to sometimes 100, but most frequently at between 70 and 80. No other symptoms of life were at all displayed. Natural respiration was wholly suspended during the entire time, but about 4 o'clock there was evidently a slight muscular motion. There had also been inserted on the right shoulder about 4 grains of strychnine; and turpentine had been used, as well as ammonia applied to the nostrils.

About this time (four o'clock) the creature displayed symptoms, by the agitation of the nostrils, of returning natural respiration.

At 4h. 38m. its natural respiration was free, and the artificial respiration was discontinued. Soon after, the animal was laid on some straw, before a large fire,

where it continued in a very doubtful condition through the night. Every attention was paid to it.

At 8h. (in the evening) it drank some water, and horns of gruel were occasionally given. It sometimes struggled a little with its legs, as if desirous of rising, but could not well raise its head. The pulse was feeble, and varying from 86 to 104.

Towards the morning it breathed with great labour and difficulty, and apprehensions were entertained that it must sink: but between five and six o'clock the tube was removed from the trachea, and some mucus and blood was voided at the incision. Some lint was applied to the wound, and at seven o'clock it was sewed up.

At eight o'clock it was raised on its belly, and seemed pleased with the change of position. A warm bran mash was offered in a bucket, of which it ate with much ease. Its breathing became more free, and about nine o'clock it was raised on its legs, but they were unable to sustain it, particularly the near fore-leg, which was contracted and paralysed. It was taken out into the yard for a couple of hours, but the cold was too intense, and it was again brought before the fire.

Its extreme debility, poverty, and wretchedness, together with the sudden exposure to severe cold, ultimately deprived the animal of existence five days afterwards. On opening the body there was not the slightest manifestation of the powers of the poison: the heart was healthy; there was no inflammation where the wourali had been introduced, but slight indications where the strychnine had been applied; in fact, the animal died from exhaustion and decay.

The length of time which it had taken to restore the above animal, and which was, in some measure, attributed to the great quantity of poison, induced a desire to witness a second attempt with a less portion of the wourali; and accordingly, on the following day, judicious arrangements having been made to keep the room cool, about eight o'clock in the morning a male ass, about five years old, was brought in; it appeared vigorous, but with ventril hernia on the right side. The creature stood perfectly quiet, and the action of the heart was at 36. This time the trachea was opened previous to the insertion of the poison, so that not a moment might be lost. At 8h. 6m. an incision having been made on the fore part of the right shoulder, Mr. Waterton inserted an arrow-spike, having on it only one-fifth of the quantity used the day before. The creature struggled a little to escape, but afterwards remained perfectly tranquil. We are compelled, by want of room, to omit many connecting details, but the following are the principal symptoms:

At 8h. 16m. the pulse was at 66; and about 4 minutes afterwards the pupil of the eye became gradually dilated, though the animal stood perfectly patient, manifesting no symptoms of uneasiness.

At 8h. 36m. spasmodic twitchings were evident in the regions of the abdomen, the animal still eating, and apparently not much distressed. The next minute the legs trembled, and at 8h. 40m. the creature fell on its belly, but tried to rise again.

In 2 minutes more the twitching increased, with occasional struggles, but not very violent, and the animal laid down upon its left side, where it was suffered to remain, a bed of straw having been prepared on the floor for the purpose in the middle of the room. The tin tube was introduced into the trachea; the insertion caused the animal to kick a little, but it still continued chewing the oats.

At 8h. 54m. the arrow-head was withdrawn from the incision, and no poison remained upon it. The pulse continued the same, and the respirations were 44 in a minute; the vision pretty perfect.

At 9h. 7m. respiration ceased—the vision entirely gone—the action of the heart energetic—the extremities warm—throbbing of the carotid artery strong. The apparatus was put in motion, and artificial respiration commenced, at an average of 18 a minute.

At 10h. 25m. the nostrils gave indications of restored respiration, and the arti-

ficial respiration was kept up at 16 per minute. No pulsation perceptible, except in the action of the heart.

At 10h. 27m. natural respiration recommenced.

At 10h. 41m. the artificial respiration was discontinued.

At 10h. 44m. the natural respiration were 38.

At 11h. 22m. the pulsation of the heart was at 80—respiration improving, and muscular power increasing.

At 12 o'clock the respiration became more feeble, the animal heat was diminished, and the pulsation at 60; the eye not so susceptible of light.

At 12h. 5m. some gruel was poured upon the mouth, which produced violent muscular action; some hay was offered, which it smelt, and attempted to eat.

At 12h. 36m. the pulse was at 55, feeble; and the animal attempting to cough, forced a quantity of mucus through the tin tube which remained in the trachea. It was evident that, by continued coughing, something was irritating the animal's throat, below where the incision in the trachea was made; and at 12h. 50m. a considerable quantity of mucus, tinged with blood, was forced through the tube; this continued at intervals for some time, the ass ejecting the mucus with difficulty.

At 11h. 40m. the pulsation was 60, and a piece of straw having got into the tube, irritated the animal, who, in trying to get rid of it, struck the tube against the ground; the suddenness of the pain caused the creature to rise up *upon his legs*, and in a few minutes he walked about with a tolerable degree of strength. The tube was removed from the trachea, and some water being given it in a bucket, it drank freely; the mucus continued to annoy it for some time longer, but at last it discharged the principal portion, breathed more readily, and manifested much greater ease.

At four o'clock it began to eat some warm mash, and afterwards some hay; the wound in the trachea closed, so that no air was admitted, and the animal went on gradually gaining strength, and becoming lively.

At five o'clock a person mounted his back, and he bore him without the least difficulty across the room. Since then the ass manifested every symptom of liveliness, strength, and even playfulness, betraying no signs of having been operated on. The hernia has sustained no change.

We have been thus minute in particulars, for the purpose of affording every information to gentlemen of the medical and surgical professions; for, though it is asserted that the spasmodic action in hydrophobia takes place below where the tube could be introduced into the trachea, yet, as all natural respiration must cease before artificial respiration is commenced, and consequently the nervous powers be prostrated, so it follows, as a matter of course, that the spasmodic affection would be greatly weakened, if not entirely destroyed; and therefore no objection ought to be raised on this ground. At all events it is well worth the trial, could an unfortunate person, labouring under the disease, be ready to submit to it; and we presume no surgeon would venture to make the attempt without the consent of the patient.

An old and highly respected practitioner, of some fifty-six years' constant application to his profession, (he is now advancing upon eighty, and as vigorous as ever,) has suggested, that drowning a man, and then resuscitating him by the system recommended and used by the Humane Society, would probably have the same results—the great object being the suspension of nervous vitality; but there are many objections to this plan, and probably no one could be found who would put it in practice. The wourali, though so certain in its fatal effects, nevertheless appears to destroy life without any great or acute suffering. In what way it acts has not yet been accurately discovered; but from vitality remaining unimpeded till within a very short time of dissolution, it may probably be spreading through the system, without affording a manifestation of its virulence, till it reaches the head or the heart; then a stupor and deadening of the faculties is induced, producing much the same effect as an over-dose of laudanum.

As for artificial respiration, it excites surprise that it is not more generally resorted to in many cases—such as death from opium, or drunkenness; the only

difficulty being that the action of the heart must not have wholly ceased before the artificial respiration is commenced; and unfortunately it seldom happens that notice is given in time to be efficacious. However, it is to be hoped that some spirited members of the medical profession will take the matter up; for, if breathing can be persevered in by inflating the lungs till the effects of narcotics have passed away, there can be no doubt that life may be preserved.—*United Service Journal.**

PRESERVATION OF DEAD BODIES.

BY EDWARD CHARLTON, M. D.

A year or two ago various notices appeared in several of our British Journals, both literary and medical, of the process discovered by Signor Girolamo Legato, a Florentine gentleman, for preserving, in an extraordinary degree of perfection, the human body, and all objects of natural history. By some the whole discovery was treated as a fable; by others who had seen the preparations, accounts so extraordinary were promulgated, that the ever-cautious scientific bodies of this country received them with distrust. This incredulity was greatly strengthened by a pamphlet, written about 1835, by the Advocate Pellegrini, a friend of Legato's, and of which several copies found their way into Britain. Nothing could have been more calculated to injure the discoverer than this publication, couched in the most high-flown language, and containing statements often directly at variance with the laws of science. I have not, at present, the opportunity of consulting the various accounts above alluded to, nor is it necessary to do so, as I here wish to relate only the results of my own observation of the specimens, without trusting to the accounts of others. On visiting Florence, in May, 1838, I immediately inquired for the cabinet of Legato, he himself having died nearly two years before. It was with considerable difficulty that I obtained permission, through the kindness of Professor Betti, to inspect the preparations as they are not now shown to every visitor. Signor Fumagalli, in whose house they are at present preserved, allowed me to handle and examine each specimen at my leisure, and most courteously assisted me with all the information in his power. The following is an extract from the observations I then committed to paper, May 5th, 1838:—

"It is stated in the pamphlet of the Advocate Pellegrini, which I read two years ago in Edinburgh, that the objects prepared by Legato possessed the hardness of stone, with the flexibility of the living fibre. They do *not;* but their general hardness is akin to that of mahogany, (I mean of the preparations of internal organs,) while the integuments of the hands, feet, &c., feel as if a tight cover of parchment, or white leather, had been drawn over the horny, yet still pretty flexible, muscles and tendons. Most of the preparations can be indented by the nail, but require considerable force to be exerted before you can leave any mark upon them, though any iron instrument would scratch them as easily as it would rosewood or mahogany.

"The foot of a woman was the first object shown to me; it was of a dead-whitish colour, like that of a corpse, and the skin felt as if half tanned, and adhered very closely to the subcutaneous tissues. There was not here the plumpness of life; but it was not much more shrunk than is the foot of a person who has died of a lingering disease. The muscular parts of the plantar surface of the foot appeared shrunk in proportion to the rest of the tissues, though, as very little fat appeared at the point of amputation, I suspect the subject had been an emaciated one. The foot had been severed about an inch above the ankle joint, where little muscular substance is found; but what I saw was of a light yellowish-brown colour, and had the feel and consistence of horn. The toes of this foot were flexible to a very considerable degree. Of two hands the colour of the

* In Littell's Museum.

skin was considerably darker, approaching to a light brown; but all the fingers were flexible, though somewhat stiff. About the foot I thought I could still perceive a very faint smell of fat; but the hands were perfectly inodorous. In the same drawer was the head of a fœtus of about eight months, which was, indeed, curious, as the putrefaction, which had commenced, had been completely and suddenly arrested. Here the colours were well preserved, the greenish hue of incipient decay being very apparent, the skin nearly of the natural colour, and the whole hard and firm, nor much less plump than in life. I found it very difficult to imprint any mark with my nail upon this head; the soft down on the scalp was perfect. In the same drawer was a portion of liver, hardened and polished on one side; this did not please me, its colour was so dark that but for the form I could not have recognised it, nor could I perceive any traces of acini, or veins. It could be indented by the nail, and was much lighter than a similar portion of fresh liver, being little heavier than a portion dried by exposure to the air, although it differed from this, in being little, or not at all, diminished in size. In a flat piece of wood were several inlaid and polished portions of various organs and tissues of the human body. I may particularly instance two large round portions of the placenta, wherein the red blood-vessels, running in every direction in the yellowish surrounding tissue, resembled, very closely, some of the varieties of serpentine. In another square of wood were inlaid two portions of the kidney, cut and polished, and beside them two pieces of polished box-wood. The latter I could easily indent with my nail; the former received no impression whatsoever from all the force I could exert. Perhaps the greatest curiosity was a little tablet, about a foot and a half square; portions of the human body, to the extent of about 80 different pieces, are here inlaid with small cubes. Nothing can be more beautiful than the polished slices of hardened cuticle from the soles of the feet; they are extremely hard, yellowish, and transparent, like the yellow sulphate of lime from Volterra. Portions of the kidneys, tonsils, lungs, &c., exhibited their natural hue, and could be instantly recognised by any one at all conversant with their structure. In a glass case is the thorax of a young girl of seventeen; the plumpness of the mammæ is here admirably preserved; but though I do not suspect Legato of any deceit, I should have wished to have examined it more closely, ere I would assert that the parietes of the thorax were perfectly entire. The appearance of the skin, in this case, raised a suspicion in my mind, for it exactly resembled white leather, having all the glistening appearance of tanned sheepskin. I speak cautiously of this specimen as I could not handle it, and the edges were entirely concealed by drapery.

"By far the most satisfactory part of Legato's preparations are the preserved fishes, reptiles, and insects; these far exceeded my most sanguine expectations. Some lizards and small serpents are hard as horn, very light, and every scale, every proportion, and their colour, are perfectly preserved. A few birds, among the rest a canary bird and a chaffinch, have been subjected to this process. Though less resembling life than the birds that are stuffed by Waterton, or our best London preservers, their bodies are pretty plump, and perfectly hard and compact; but the moths, which abound in the case where they lie, have made sad havoc with their feathers. The canary bird, as we are told by Pellegrini, and, as I was also assured by Signor Fumigalli, was placed under water for two months during the life-time of Legato, and, at the end of that period, taken out unchanged. The destroying moth could not evidently advance farther than the feathers; nor could they injure any insects that had been subjected to the preservative process; for while numerous other unprepared ones in the same case had been nearly, or totally ruined, those prepared, though some were of the tenderest description, had escaped uninjured. Here were also numerous dissections of frogs, toads, and fish. A perpendicular section of a perch was very remarkable, as the colours and proportions of the parts had been most completely preserved. It appeared to me that this specimen had been *varnished*, but certainly it had not been painted. A portion of the brain of a child was extremely hard, but of a light hair-brown colour, somewhat greasy to the touch, and by no means free from animal odour. Signor Fumigalli showed me one of the fish which, he said,

'was not completely *salicified* through,' and stated that several of Legato's earlier preparations had had the same defect. The parts farthest remote from the circumference were certainly, in this instance, much softer than the internal ones, though, at the same time, they did not appear shrunk."

Such are the results of my examinations of these specimens, and I have copied them exactly from the notes taken on the day of the visit. I hope that I have shown that the accounts of some previous writers, though exaggerated, were by no means altogether unworthy of credit. From a personal friend of Legato I received a few particulars concerning him, which may not be without interest to some of the readers of the Lancet.

Legato was, unfortunately, obnoxious to the Government of Tuscany, on account of his extreme liberal opinions. He, on one occasion, presented a petition to the Grand Duke to be allowed to preserve the entire body of a child of 11 or 12 years of age, and prayed, that should any such die in the hospital unclaimed, it might be given over to him. The petition was referred by the Grand Duke, who really admired, but dared not openly favour him, to a committee, and here the malice of his enemies prevailed, and the humble request was denied. Too poor to purchase, even in Florence, where a body costs but a few francs, Legato was obliged to content himself with what his friends could supply, and was never able to make trial of his process on a grand scale. But this would have been of but small moment; time would have done justice to his merits, had not, through his childish selfishness or timidity, his secret gone with him to the grave. So fearful was he lest it might be discovered, that he never would commit the slightest hint of it to paper, though repeatedly entreated to do so by his friends. They earnestly begged him, at least, to leave it in his will, which would remain sealed till after his death; but, with a childish obstinacy, he constantly refused. On his death-bed, Mr. Sloane, my informant, and others of his friends, renewed their solicitations, and, at length, convinced that he could not survive, he appointed next morning to reveal to them his process. The morning came; they repaired to his house; Legato was speechless, and died in the course of the day. His collections have been carefully preserved; and, as a commission has been named by the government to treat for the purchase of them, it is to be hoped that, ere long, they will be freely opened to scientific investigation and analysis, by which alone we can now hope to obtain a hint of the mode of preserving objects so perishable. But, should this method be entirely lost, I trust that this account of the specimens preserved by it, will prove that it is a misfortune to be deeply regretted by the scientific world.—*Lancet.*

CLINICAL LECTURE ON LATERAL CURVATURE OF THE SPINE.

BY FREDERICK HALE THOMSON, ESQ.

GENTLEMEN:—Having spoken to you of spinal distortions arising from disease in the vertebral column, I now propose to call your attention to lateral curvature unconnected with disease. It is a subject well worthy of your consideration, as you will find that this distortion prevails most extensively amongst females of the middle and higher ranks of society.

In my first lecture I mentioned to you the observation I had made from private practice, that, out of 263 cases of this deformity, 240 were cases of lateral curvature to the right side; 12 were cases of lateral curvature to the left side; and 11 were cases of posterior curvature, producing that prominence known by the term hunchback. These were cases met with in females, in the proportion of 95 to 100; whilst among the working classes the proportions are nearly equal; thus showing that the difference of sex cannot account for the greater prevalence among females. Various theories have been promulgated to explain the causes of lateral curvature of the spine, occurring so disproportionately in females, and attempts have been made within the last few years to account for lateral curva-

ture towards the right side preponderating to the extent I have mentioned. I will hereafter point out to you such of these opinions as appear to me most satisfactory. I may say that as far as I have been able to consider the subject, I attach but little importance to the theories respecting lateral curvature unattended with disease, adduced from many of the ancient authors: for I believe that nearly all the opinions quoted from the works of anatomists and surgeons prior and immediately subsequent to Mr. Pott's day, were intended to apply more to those deformities arising from caries, or dependent upon scrofulous diathesis, than to those distortions we now so commonly meet with denominated lateral curvature.

Lateral curvature of the spine has been frequently supposed to depend upon that state of constitution to which Glisson first applied the term rachitis. It does not appear to me, however, to be connected with, or dependent upon, either the softened cartilaginous state of the osseous system usually met with in ricketty children, or on the mollities ossium or osteo-sarcosis of adults; and I believe, in a vast majority of cases, there is not the slightest deficiency in the structure of the vertebral column so usually found in both the states of disease I have mentioned. Lateral curvature seems to me, in a great degree, to be alike unconnected with the general distortion of the bones met with in rickets, or their fragile condition resulting from mollities ossium; and as we find that this distortion rarely commences before the child is nine years old, and that rickets is generally met with between the ages of two and five, we can readily account for the curious pathological fact that deformity of the pelvis is scarcely ever observed to arise from lateral curvature of the vertebral column.

We find, also that both rickets and mollities ossium are preceded by severe constitutional disturbance, which is rarely met with in cases of common lateral curvature. I may observe, likewise, that the scrofulous diathesis, so nearly allied with the rickets of children, and the mollities ossium of adults, is by no means a necessary or frequent concomitant of lateral curvature; and I know no greater error than to imagine that this species of spinal deformity necessarily indicates a predisposition to scrofula. The question whether constitutional causes give rise to lateral curvature, (so common among females in the opulent classes,) may I think be answered by the fact that, although these constitutional causes prevail more generally among the poor than the rich, yet we find that the former are comparatively exempt from this form of distortion. It will be obvious to you that there must be some general cause which occasions the frequency of lateral curvature to the right side instead of the left. Glisson, and authors of his day, believed that dextral curvature depended upon the sides of the vertebræ being unequally nourished, so that one side grew faster than the other; therefore the peculiarity of the circulation, or the position of the aorta in the chest, has been pointed out as the cause of this distortion. It must, however, be evident from our knowledge of the exquisite perfection of the human frame, that no general arrangement of its economy could be a source of debility and disease.

Mayow, in 1669, suggested that one set of muscles acting more vigorously than another, drew the spine to one side, thus giving rise to permanent curvature; and I believe this opinion may be fairly considered as the basis upon which the most reasonable explanation of the distortion can be given. Lateral curvature, in its incipient state, I should define—an alteration in the form of the spinal column, unconnected with disease of the bony structure, and dependent solely upon a partial relaxation of the ligaments and muscles of the spine. It is to be distinguished from disease of the bony structure, not only by its termination, but by an attention to the general history of the complaint. Its progress is usually very gradual; it is rarely attended with pain, but merely with a sense of uneasiness, which is usually referred to fatigue of the muscles of the back. Indeed, in many cases of long-standing, I have observed that the patient has never been sensible of any pain or uneasiness in the spinal column or its vicinity; and that, except from the alteration of shape, she would be totally unconscious of the approach of the disorder. I have sometimes found it to occur during the long confinement of young persons suffering from acute attacks of disease; indeed, some of the most obstinate cases I have treated have arisen under such circumstances

(these cases occurred in patients varying from the age of 12 to 18); and therefore I have concluded that to the relaxation of the muscles and ligaments of the spine these deformities should be attributed. Unfortunately, distortion is often unobserved or overlooked during the period of convalescence; and it frequently arrives at a very severe stage before any remedial aid is sought for. The appearances met with on dissection in such cases indicate that interstitial absorption has occurred throughout the intervertebral substance, and particularly on the concave side of the curve. The ligaments, too, appear to be greatly attenuated, and the muscles of the convex side very considerably shrunk. It is frequently suggested by parents that certain habits, such as standing on one leg, sitting awry in particular occupations, and constant lolling, mainly contribute to produce this distortion; but it is my opinion that such habits are merely the necessary efforts to preserve the equilibrium of the body after an alteration in the form of the spine has actually taken place. The habitual use of a crooked posture in the incipient stage of the deformity may essentially tend to the confirmation of the disorder; but, as females are not alone subject to such constraint, I should rather attribute the origin of lateral curvature to causes of a general nature than to those of a local character. I am perfectly satisfied, however, from my own experience, that cases may frequently occur which cannot be accounted for by any general principles; but I believe that, for the most part, the artificial state to which females in the present day are subjected, is the principal cause of this malady. You are aware, Gentlemen, that in confirmed lateral curvature the three regions of the spine—the lumbar, dorsal, and cervical—are severally implicated.

Much has been written of late years upon the question,—Which part of the vertebral pile first assumes the lateral curve? And it has been absurdly argued by disputants upon this subject, that the treatment of those who believed the deformity to arise in the lumbar region, must necessarily be imperfect in the treatment of lateral curvature occurring between the scapula or dorsal region. My own impression is, from all the cases I have examined, that this deformity most frequently commences in the lumbar region. The lumbar vertebræ, we know, form a broader base, yet the dorsal, from their connections with the ribs, receive additional support. At the base of the column, also, you will observe that there is very considerable motion; the freedom of such motion, combined with the relaxation and partial debility of the muscles supporting the base of the spine, predisposes this part primarily to assume the lateral curve. In the incipient stages of the malady, parents very rarely apply for medical aid; indeed, they seldom detect the necessity for it; and I believe that much of the prevalent dispute has arisen from the lower curvature having insidiously increased, until it has induced a corresponding effect in the dorsal region; and it is from parents not observing the malady until the second stage has commenced, that the opinion of its generally occurring first in the dorsal region has been entertained.

It is by no means an easy task for a person not well versed in the anatomical structure of the vertebræ to detect a slight curve in the lumbar region; indeed, I have frequently seen medical men considerably puzzled to decide whether or not the spine was slightly deformed at this part. The difficulty of feeling through the thick layers of muscles that cover the base of the column, conjoined with the circumstance that parents seldom seek professional advice until the second stage of lateral curvature has commenced, is, in my opinion, the reason that the dorsal region has been pointed out as the first seat of the deformity. As far as I have been able to ascertain from actual experience, I have found the commencement of lateral curvature to vary according to the different ages at which children have been obliged to prosecute their studies. The infatuation for precocious accomplishments in the present day, amongst the females of the middle and higher ranks of society, is, beyond all doubt, the main cause to which the prevalence of distortion may be attributed.

It is no uncommon circumstance to find a delicate female, at the age of nine or ten, impressed with the idea that her only proper employment is that of intense application to drawing and music, and to writing lessons in French, Italian, or other languages. Can we be surprised, therefore, that such habitual and ill-timed occupations, performed at an age when the bony structure of the frame is

imperfectly developed, and the muscular system suspended in its action, if not partially destroyed, should cause deviations from the natural and healthy state of the spine? It is quite evident to me that two-thirds, at least, of the cases of spinal deformity may be traced to the ill-judged restraints and fatigues to which young persons are condemned for the attainment of fanciful accomplishments. The term education, as usually understood at the present day, implies only moral and intellectual cultivation. Mr. Locke added to this mental culture a series of rules and observations necessary for preserving and strengthening the bodily constitution, and comprised them under the expressive term physical education:—"Thus embracing the more enlarged and comprehensive purpose of promoting general health, and preserving the bodily frame and mental organs in the full and vigorous exercise of all their functions."

The physical education inculcated by Locke, I am sorry to say, has been lamentably overlooked in the curriculum inflicted upon the females of the middle and higher ranks; and it is to the neglect principally of physical education, that all the evils arising from lateral curvature may be attributed. Within the last few years the members of the profession have had their attention directed to the benefits that arise from physical education. Among the many writers who have laboured in this cause, no one, perhaps, has shown the evils which result from the present course of female instruction in a more correct and forcible view than Dr. Barlow, physician to the Bath Hospital. In the first volume of the "Cyclopædia of Practical Medicine" a most valuable paper on physical education is drawn up by that gentleman, in which I find many of my own observations noted down, and my deductions from them confirmed. I had, with much care, compiled a table, illustrating the horrors of scholastic slavery, but fearing that any private view on this subject might be considered partial, I prefer extracting part of a note appended by the learned editor, Dr. Forbes, to Dr. Barlow's most excellent remarks:—

"The amount of exercise, or rather the extent to which the *want of exercise* is carried in many boarding-schools, will appear incredible to those who have not personally investigated the subject. The following is the *carte* of a young ladies' boarding school, drawn up on the spot, a few years since, from the report of several of its inmates:—

"At 6 in the morning the girls are called, and rise; from 6 to 8, learning or saying lessons in school: 8 to 8½, at breakfast; 8½ to 9, preparing lessons out of school, some of the girls permitted to do so in the garden; 9 to 1, at various tasks in school; 1 to 1½, out of school, but must not go out of doors; reading or working and preparing for dinner; 1½ to 2, at dinner; 2 to 5, in school, various tasks; 5 to 5½, tea; 5½ to 6, preparing to go out; dressing or reading, or playing in school; 6 to 7, walk, generally arm-in-arm, on the high road, many with their books in their hands, and reading.

"Two days in the week they do not walk in the evening at all, being kept in for dancing: but, by way of amends, they go out on two other days from twelve to one, and then they miss writing. It is to be remarked that they never go out unless the weather is quite fine at the particular hours allotted for walking. They go to church all the year round, twice every Sunday, on which day no other exercise is taken.

"From 7 to 8, for the older girls, reading or working in school, (this is optional,) and then prayers; for the younger, play in school, and prayers; at 8 the younger go to bed; from 8 to 9, the older, reading or working, as before; 9, to bed.

"The twenty-four hours are, therefore, thus disposed of:—

"In bed (the older 9, the younger 10) - - - -	9
"In school, at their studies and tasks - - - -	9
"In school, or in the house, the older at optional studies or work, the younger at play - - - - - -	3½
"At meals - - - - - - - -	1½
"Exercise in the open air - - - - - -	1
	24

"The above account was taken from a second or third-rate school, and applies more particulary to the season most favourable for exercise, summer."

It is not necessary for me, Gentlemen, to dwell more upon the subject on the present occasion. I will, in my next lecture, lay before you such principles of treatment for the cure of lateral curvature, as I have found most practically useful.—*Ibid.*

ON THE GENERAL UTILITY OF THE ERGOT OF RYE IN OBSTETRIC MEDICINE.

BY JOHN JOHNSTON KELSO, M.D., LISBURN.

As a great division of opinion exists in the profession respecting the general utility of the ergot of rye in obstetric medicine, some considering it as either superfluous, or not unattended with some degree of hazard in almost any case; some admitting its general utility in a particular class of cases, characterized by special conditions, alone; and others advocating its indiscriminate employment, as an almost infallible means, not only of considerably accelerating, both speedily and safely, parturition, but also freeing the patient of some formidable casualty liable to supervene upon that process. Amid such discordant sentiments, I will, I hope, be excused in venturing, through the enlightened columns of the Lancet, to state the result of my limited experience on this important question, in the sincere hope of contributing, however meagrely, to the removal of some of those prejudices and highly-erroneous impressions which, unfortunately, surround it; and the tracing out, in outline, of a sure and solid basis of scientific practice. The observations I am about to make, I should here just mention, are founded on personal experience, derived, as this is, from upwards of 500 obstetric cases, in which I have employed this medicinal substance myself, and that of some professional friends, whose extensive field of observation as to its effects entitle their candid statements to every respect.

Agreeing, as I principally do, in the pretty generally received opinion, that the ergot acts through the medium of the uterine nerves, which it stimulates to the setting up of that peculiar but well-known action to which it gives rise; the inquiry into the appropriate conditions which specially indicate its administration, and circumscribe its unquestionable utility, resolves itself, in my opinion, into the four following considerations:—1. The description or class of cases in midwifery most suited to its proper use: 2. The stage of labour which indicates its employment with the best prospect of benefit: 3. Its effects on the mother, as regards both her immediate condition, and her recovery after delivery: 4. Its immediate effects on the life of the child.

Premising that, with Desgranges, I consider the activity of the ergot to be in proportion of the minuteness of the powder and its recency, the form, not overlooking these particulars, in which I prefer exhibiting it, is that of decoction, continuing the ebullition at the least for three minutes. A scruple, or half a drachm, thus prepared, constitutes the common dose, which is to be repeated or not, according to circumstances, at the interval of an hour or an hour and a half, till, at the utmost, three such doses be administered, and which, if it be retained by the stomach, will generally be found to succeed. Should this, however, prove inoperative, a larger quantity will not only, most likely, be useless but perhaps prejudicial, or even deleterious to the system.

I.—*The Description or Class of Cases of Midwifery most suited to its Use.*

Women of a nervous, or sanguineo-nervous temperament, are, I think, the most apt to be influenced by the ergot; while, on the other hand, those of a melancholic or lymphatic constitution are generally insusceptible to its action. But, other things apart, peculiarity of constitution can never, in itself, be indicative of its propriety or impropriety; it is sufficient for us to be aware of the fact, inasmuch as, in prescribing the remedy, it will prove a key to the prognosis. In women, however, of a lax and irritable fibre, its characteristic action is so con-

stantly displayed on its exhibition, that it occurs in perhaps every ninety-nine cases out of the hundred, and almost always with the most unexceptionable result, as respects the personal safety of the mother, both immediate and contingent, without, at the same time, in the least endangering the life of the child. Let me not be misunderstood; I am speaking not of first but of subsequent labours, and more especially of that large class of them in which its great practical value is indisputable.

On the contrary, in the great proportion of first confinements, as well as in a few particular constitutions, of which no experience can afford distinctive indications, its operation is generally either null, or only of a spurious, exhausting character, which may not only not be unattended with some degree of hazard of the occurrence of an accidential lesion in the mother, but, as experience has proved, with almost certain destruction to the life of the child. Sometimes, it is true, the ergot will here prove the means of setting up vigorous action, where this has been previously irregular, or so-called *false;* while, on the other hand, it will occasionally be found to change natural, though perhaps tedious action, into the most excruciating, continued throes, accompanied, or not, with sickness at stomach and violent retching, which requires the instant exhibition of an opiate. Knowing all this, I am always extremely cautious in resorting to it in this class of cases, in which, as a general rule, it is inadmissible.

II.—*The Stage of Labour which indicates its Employment with the best Prospect of Benefit.*

Some patients, as has been already remarked, are much more susceptible of its good effects than others of apparently similar constitutions, to whom, *cæteris paribus*, it may be judiciously prescribed at an earlier stage of the labour with the happiest effect. Leaving out of account cases of first confinements, in which, as we have just seen, its use is generally inadmissible, when called into a patient I adopt the following mode of procedure:—Having ascertained the period at which the pains may have at first set in, their character as to regularity of invasion and apparent force, I proceed to institute an examination *per vaginam*. If the presentation be natural; the os uteri dilated to the size of a crown-piece, and thin and dilatable; the parts lax and properly lubricated; the pains tedious and inefficient; and the labour having been progressing, say for some five or seven hours, with these indications, which are strictly essential to its prudent and effective administration, I unhesitatingly have recourse to the secale cornutum; and, provided the temperament be favourable, which is of moment as far as the inducing action is concerned, invariably with the most satisfactory result. Indeed, under circumstances such as these, its effect will, as is well known, be sometimes almost magical, while it all but invariably forms a certain means of safely accelerating, to a greater or less degree, the termination of the process.

True it is, a violation of some of those conditions just laid down may occasionally be unattended by any adverse issue, nay, by a very favourable one. Thus, for instance, in the thick and undilated os uteri, attended with protracted and abortive sufferings—a state of things which by no means unfrequently occurs—its expansion may occasionally be greatly promoted, and natural pains induced, by the exhibition of the ergot; but the evil effects on the life of the child are too common to warrant a frequent recourse to the practice. Its aid, therefore, should never be resorted to until the os tincæ be properly dilated, "and," in the words of Professor Burns, "everything ready for delivery." I should not here omit to mention that some, with Dr. Burns, are of opinion that rupture of the membranes should generally precede the use of this remedy. This, however, I conceive to be unnecessary, as it appears to me, as well as many others, to be equally safe and effectual, whether these may, or may not, have previously burst; hence I never entertain the rule.

III.—*Its effects on the Mother as regards both her Immediate Condition, and her Recovery after Delivery.*

Its physiological effects are too well known to require any notice, in this place, from me; and were its great practical value only limited to that of diminishing

the liability to uterine hæmorrhage, a property of which it appears to be possessed in an eminent degree, it would, on this account alone, well deserve our most serious consideration. Thus, of those 500 cases, in which was exhibited more or less of the ergot, there occurred in all only three of uterine hæmorrhage; two of which occurred between the birth of the child and the throwing off of the placenta, and the other about an hour after the separation of the secundines. In none of them was the loss of blood extensive, and they all readily yielded to the appropriate means. Quite different is the result of my experience as regards the occurrence of this casualty where the ergot was not exhibited. Here the cases of flooding, which were, at the least, doubly more frequent, were, when they occurred, certainly more formidable, as well as attended by, relatively, a greater amount of loss of blood.

But, in a just and impartial review of its real utility, I cannot omit referring to a case of my own, in which an affection very closely resembling the third form of puerperal mania of Dr. Burns, supervened on the exhibition of, in all, about ʒiij of the ergot, but in separate doses, and in a period of eight hours. It occurred in the person of E. C., of a nervous temperament, who, in March, 1835, was confined of her first child, after a tedious labour of about twenty hours' duration. The first symptoms, which announced themselves on the evening of the day of her delivery, were those of feverish excitement, characterized by a quick, though not full pulse; heat and dryness of the integuments; thirst, head-ache, &c. There then occurred wandering of the ideas, and an incontrollable desire of getting up and going abroad. Oftentimes she talked, not on one, but on various subjects, and generally pretty correctly; but again, at other times, she was taciturn and pensive. The eyes were wild and vacant, and the countenance altogether inexpressive. The lochia were natural and abundant, but the abdomen, though supple, appeared rather distended. In the course of some days the secretion of milk, though in less quantity than usual, appeared, and the febrile phenomena in great degree subsided; but the wildness and incoherency of manner and expression, which frequently burst forth in violent, and occasionally long protracted paroxysms, requiring generally manual restraint, persisted, with various alternations, for the better and worse, for a period of about ten weeks, at which time reason began to be restored. During the whole of this time she was the subject of frontal head-ache, of greater or less intensity; inappetency, and a great and general vitiation of the entire secretions, which it was very difficult, in any degree, to correct. The secretion of milk became suppressed after the lapse of the first week of her illness, and the general debility became, during the progress of the affection, considerable. After various kinds of treatment, which was, of course, modified according to the ever-changing condition of the phenomena, she ultimately recovered, and is now in perfect health, having since borne two children. I thought both then, and often since, that the rather large amount of the ergot which was altogether exhibited in this case, constituted a primary and chief element in its causation, but whether correctly or not I leave it to my senior and more intelligent brethren in the profession to determine. But, be this as it may, it very forcibly impressed me with a sense of the propriety of always exercising a due degree of caution in its administration; and the more especially as, if it is to succeed, a quantity within the limits of perfect safety will generally be found adequate to the production of the desired end.

IV.—*Its immediate Effects on the Life of the Child.*

The great diversity of sentiments which unfortunately prevails on this all-important point, arises, I conceive, in great measure, from the proper or improper use of the ergot; and, on the one hand, I can no more doubt that its indiscriminate and intemperate employment has but too often been productive of fearful results in this respect, than, on the other, its judicious and cautious use has, by accelerating the termination of the process, oftentimes averted a fearful issue. The mortality of children in these 500 cases amounted in all to *forty*; or 12.5 per cent. Of this number *thirteen* were dead for longer or shorter period previously to delivery, as was manifestly indicated by more or fewer of the incipient symptoms of putrefaction having, in all of them, obviously set in; in *three* the umbilical

cord, the part which had first descended, had ceased pulsating, from the destructive pressure of the head on the brim of the pelvis intercepting the circulation in it; and *four* were cases of breech presentation, attended by tedious labour, and more especially difficult and tardy protrusion of the head, with, of course, a fatal compression of the funis, in each of them; thus reducing the real mortality to just the one-half of the above proportion, or to four per cent. It is to be observed, that in this calculation cases of first confinements, in which, as is known, the relative mortality of the offspring is much more considerable, are not included, inasmuch as the aid of the ergot was here, for the reasons just stated, but rarely resorted to.

The experience, too, of some other medical gentlemen of my acquaintance, and especially that of my friend Mr. M'Donald, of this town, whose rather extensive opportunities of observation in this department of medicine, entitles his statement to every respect, goes to corroborate, almost to the very letter, that of my own, as following on the employment of the medicinal agent in question.

In conclusion, I would most respectfully observe, that the highly interesting question of the general utility of the ergot of rye, in obstetric medicine, can obviously only be satisfactorily arranged, not by frothy declamation or intemperate assertion of either the friends or enemies of the practice, but by a dispassionate and calm appeal to, and deductions from, accurately recorded facts, founded on its varied and extensive employment.—*Ibid.*

EXTRACT FROM A LECTURE ON THE HISTORY OF MEDICINE.

By Philip Crampton, Esq.

LITHOTRITY.

I have reserved for the last, the greatest triumph which surgery has achieved, in our own or perhaps in any time, I mean the operation of lithotrity, an operation by which, in by far the greater number of cases, a stone may be removed from the bladder with less pain or danger than is attendant upon any surgical operation that I know of. The first hint of this operation is supposed to have been given by Colonel Martin, who, in the year 1800, constructed an ingenious instrument, by which he attempted to reduce the stone to powder within the bladder. The instrument consisted of a file enclosed in a canula, the file being worked by means of an elastic stilette. This contrivance of Colonel Martin's in no degree detracts from the merit of M. Civiale, who was, beyond all doubt, the first to invent and successfully employ an instrument by which he reduced a calculus to powder, and thus procured its discharge from the bladder.

The operation has since undergone many modifications in the hands of M. Civiale and others; but the greatest improvement, and that which has altogether superseded the original operation of M. Civiale, is the introduction of the two-branch instrument by Mr. Weiss or Mr. Heurteloup, or rather by both; for I believe each was ignorant of the invention of the other. M. L'Estrange is entitled to the praise of having adapted a screw to the moveable branch of the instrument, by means of which, in a great majority of instances, the calculus may be reduced to powder without the use of percussion. It is true, that about the same time the same contrivance was suggested by Mr. Weiss, of London, but I am quite certain that neither of the gentlemen borrowed the idea from the other. Here is the instrument as it is now employed all over Europe; I have suggested a slight alteration, which is I believe generally adopted, it removes the only (and it was rather a serious) objection to the two-branch instrument. The detritus of the stone, instead of being lodged between the jaws of the instrument when they are approximated, in the improved instrument escapes through the slit in the fixed branch. I am indebted to Mr. Oldham, the ingenious engineer to the Bank of Ireland, and now to the Bank of England, for having carried my views into effect, by constructing this beautiful instrument in the manufactory over which he presides in the Bank of Ireland.

A question was raised in the Academy of Medicine in Paris, about three years since, as to the extent to which lithotrity might be considered as superseding lithotomy; the point to be determined was, "whether lithotomy should be considered the rule or the exception." The matter was discussed with great vehemence during several sittings, but no conclusion was arrived at.

I think I am enabled to state, from personal experience, that lithotrity is to be preferred in the great majority of cases to lithotomy, and upon the following grounds. The only reasonable objections which have been made to lithotrity are:—

1. That it is not applicable to children under fourteen or fifteen years of age, yet a great proportion of those who suffer from calculus in the bladder are under that age.

2. It is not applicable to very large and hard stones, as the operation requires to be so frequently repeated that it at length excites irritation and inflammation of the bladder, and the fragments which are too large to be discharged stick fast in the urethra, exciting a train of most painful and dangerous symptoms.

The answer to the first objection is, that the operation *may* be, and, in point of fact *has* been, performed by Dr. Smith of Philadelphia, with perfect safety and success on children of three or four years of age, and on one of a year and ten months. The second objection is not so easily disposed of; it is quite true that a very large stone requires repeated operations for its destruction. I have operated in one case as often as fourteen times; but if the operations be carefully conducted, they are unattended by any considerable pain, and are not followed by the slightest constitutional irritation.

The serious and *real* objection is the stopping of large angular pieces in the urethra, such pieces (*e. g.*) as these. Well, I was led by necessity to practise an operation in the case in which these fragments were extracted, which succeeded perfectly, and which at once removes the objection grounded on the stopping of the pieces in the urethra. If the piece lodge, as it almost invariably does, in the bulb of the urethra, near to its anterior extremity, I cut upon it, and remove it with a common dressing forceps. If it should advance farther, I push it backwards to the same situation and then cut upon it; through the opening thus made I introduce these slightly curved spring forceps, and, seizing the remaining fragments, extract them one by one through the wound in the perineum. By this simple operation, I removed, in the course of a few minutes, all the large fragments which you see in this box. This is not an occasion for entering into a history of the cases in which I have performed the operation of lithotrity; but I may state to this College that the result of my experience is, that the operation of lithotrity should be the *rule*, and that lithotomy should be the *exception*; and it is my firm conviction, that every year more and more of the excepted cases will come within the province of lithotrity. Before I conclude this subject I wish to mention a fact, which I think will be heard with equal surprise and pleasure by this assembly, and that is, that the first operation of lithotrity which perhaps was ever performed, but at all events of which there is any record, was performed in Dublin, about 270 years ago, on no less a personage than Sir Henry Sidney, the Lord Lieutenant, or rather the Lord Deputy for the time being.—*Ibid.*

SULPHATE OF MAGNESIA AS AN ANTIDOTE TO LEAD.

BY ROBERT CROSS.

The following case is offered briefly in testimony of the value of sulphate of magnesia as an antidote in poisoning by lead. The addition of sulphuric acid I considered rendered the decomposing the carbonate into a sulphate more certain, while the sulphuric ether acted as an antispasmodic and stimulant, and thus contributed to make the treatment more complete in every point. Mrs. Green, aged 33 years, had been six weeks pregnant, and suffered exceedingly from retchings in consequence. On the 27th December last, feeling more than usually unwell, she took what she thought to be a dose of magnesia, but which was afterwards dis-

covered to have been carbonate of lead, or, as she called it, white cerus powder, in quantity from six to eight drachms (a pennyworth). Its effects only, after some time led her to suspect the mistake, and she then, at nine o'clock in the evening, sent for me, five hours having elapsed. I found her with a most anxious countenance, in a cold perspiration, respiring heavily, constantly vomiting, her pulse hard, small, and quick, and complaining of dryness of throat, heat of stomach, and very painful colics. I administered immediately,—*Castor oil*, one ounce with 40 drops of *laudanum*, and sent for the following mixture:—

Sulphate of magnesia, 1½ ounce;
Dilute sulphuric acid, 3 drachms;
Spirit of sulphuric ether, 3 drachms;
Water, 5 ounces. Take 2 ounces every half-hour.

The oil was rejected, and, at first, the mixture also, but the latter being promptly repeated, was at length retained, and continued every half-hour alternately with brandy and water warm. The whole set of extensor muscles had become paralysed in a measure, and the flexors contracted so rigidly, and there were such excruciating colics, that the patient generally fainted after each paroxysm. These, however, gradually decreased in intensity, and at twelve o'clock the relief was so decided that I ventured to leave her, returning at two, when I found the pulse more free, the skin warm, the spasms much less severe, and the bowels well relaxed. Half the quantity of sulphate of magnesia was ordered to be left out, and the mixture then continued every hour. At six o'clock I visited her again; she was evidently very much relieved, and had slept a little; the bowels were still open and the motions very dark. She was desired to continue as usual until ten o'clock, when I found her so much improved that the same dose was directed to be repeated only every three hours. During the rest of the day (28th) she complained only of occasional gripings, some heat of stomach, nausea, and passing faintness now and then; she enjoyed some comfortable sleeps between, and passed a tolerable night afterwards. On the 29th she had mended considerably. The quantity of sulph. mag. was again reduced one-half, and the bowels remained still relaxed; the stools dark as previously, doubtlessly from the action of hydrosulphuric acid gas in the intestines upon the lead. They continued more or less throughout the 30th and 31st, gradually resuming their natural hue, and the patient, with a little tonic medicine, became convalescent within that time.—*Ibid.*

BIRTHS, DEATHS, AND MARRIAGES, IN ENGLAND.

The "First Annual Report of the Registrar-General of Births, Marriages, and Deaths, in England," is not a mere dry summary of figures arranged under the three specified heads, but a document containing information valuable to all classes of society, and especially to the statist, the medical practitioner, and parties interested in life assurances.

It appears from a comparison with facts previously known, and calculations proved by experience to approach accuracy, that the new plan of registration has been very successful even in the first year of trial. There is some deficiency in the following table. It is not pretended that every birth, death, and marriage, has been duly registered; but the omissions are too few to affect materially any results which may be drawn from the statement.

Births in the year ending 30th June, 1838 .	399,712
Deaths	335,956
Marriages	111,481

It is ascertained that many persons, under a wrong impression of the effect of the Registration Act, were married in church by their own clergymen, shortly before the new law took effect; and hence the marriages are below the average.

One of the tables shows the proportion of deaths at different ages of the two sexes, and confirms previous knowledge on the subject; exhibiting a large excess in the deaths of male infants under one year of age, which diminishes up to the age of ten, when the proportion of female deaths becomes larger, and conti-

nues to exhibit an excess over those of males till fifty, when women again have an advantage, which they retain—the number of women living to ninety and upwards, being to men in the proportion of 116 to 75.

It appears that in the North Riding and Northern part of the West Riding of Yorkshire, in Durham, (excepting the mining districts,) Northumberland, Cumberland, Westmoreland, the North of Lancashire, Norfolk, Suffolk, Cornwall, and Devonshire, human life endures considerably beyond the average in the whole of England. Out of 1,000 deaths, 145 have been at the ages of seventy and upwards in all England and Wales; but in North Yorkshire the proportion has been as high as 210 in every 1,000—in Cumberland 198, and in Devonshire 192.

Turning to manufacturing and closely-peopled towns and districts, we see a lamentable decline in the duration of life. In London and its vicinity the proportion who have died at seventy and upwards is 104 in 1,000. But the Metropolis is healthy, and its inhabitants are long lived in comparison with Birmingham, Leeds, Liverpool, Manchester, and their population; where the number 104 is reduced to 81, 79, and (in the two last places taken together) 63. Mining and manufacturing districts and low lands appear fatal to infants. In the mining parts of Shropshire and Staffordshire, in Leeds and its neighbourhood, in Lincolnshire, Cambridgeshire, and Huntingdonshire, 270 deaths in 1,000 are those of infants under one year; whereas, in the North of England, in Wiltshire, Dorsetshire, Devonshire, Herefordshire, Monmouthshire and in Wales, the proportion is only 180.

From some curious tables supplied to the Registrar General by Mr. Finlaison, it would seem that the Established Church, notwithstanding the extraordinary efforts made to attract disciples to her "bosom," is not growing in favour with the mass of the population. Out of every million of births there were baptized by the Established clergy—in the ten years ending in 1811, 846,547—in 1821, 844,117—in 1831, 822,402: and not baptized by the clergy—in 1811, 153,453—in 1821, 155,883—in 1831, 178,598. The total number of births at the period mentioned were 3,519,301—3,980,615—4,716,481. But this table also shows, that a very large, though not increasing proportion of the entire population, applied to the Church for baptism, and would seem to negative the pretensions of the Dissenters to something like equality in point of numbers with the Established Church. It may, however, be said that the desire of obtaining an unquestionable record of births prompted many persons not of the Church to apply to her clergy for the baptismal rite.

For every 100,000 marriages the baptisms were—in the decade ending in 1811, 342,534—in 1821, 353,992—in 1831, 353,231. Mr. Finlaison is at a loss to decide whether the large diminution of baptisms in the last decade, the growth of population being taken into account, indicates irreligious neglect of the rite, or whether it is owing to the gradual influx of Roman Catholics, whose children are baptized in their own chapels. But allowing for the Irish Roman Catholic immigration, there was a considerable addition to English and Protestant births in the period alluded to, and yet no increase of baptisms by the Established clergy: how is this accounted for, except on the supposition that the population has become in a greater degree irreligious or nonconformist?

Mr Finlaison calculates, that in May, 1841, the total population of England and Wales will be—males, 7,983,652; females, 8,143,910; together, 16,127,562.

We reserve some medical statistics, chiefly supplied by Mr. Farr; who seems to have bestowed much time and research on the subject.—*London Spectator.*

MARSHALL ON SOLDIERS.

This volume is a mine of statistics and advice for the young military surgeon, who has to examine recruits previous to their admission into the Army; to certify that they are incompetent from ill health to perform their duties, and should therefore be discharged; or to decide upon their claim to a pension. Under the first head, it is the comfort and credit of the surgeon himself which are chiefly concerned,—for we suppose, as regards the country, the examination has a tendency on the average to adapt itself to the supply and demand; the standard of

physical perfection being high in peace and low enough in war. As regards himself, however, the case is different. If he is over-curious in rejecting recruits, he becomes unpopular with the recruiting parties, who lose 2s. 6d. to 3s. on each man rejected; if he passes unfit men, the regimental officers, who get them, are dissatisfied with the sickness or inefficiency of the new comer; and in strong cases the Horse Guards publicly censure him, and perhaps condemn him to pay the expenses incurred in the inlistment of the man. In recommending discharges or pensions on insufficient grounds, the public suffers in the first instance, by the loss of men or money; the service in the next instance, not merely by the diminution of its strength, but by the contagious example, a successful impostor rendering imposture epidemic; the surgeon, however, may suffer in character, for the men generally boast of their exploits when fairly free.

The difficulties encountered by medical examiners in detecting imposture are very numerous, and scarcely credible to those not practically acquainted with them. In entering the Army, imposition is more limited, and more readily detected; but in that case much falsehood is stated with regard to health and age; and many tricks are practised to conceal blemishes, such as dying gray hairs with Warren's blacking. But when their object is to procure dismissal, every resource of skill, invention, self-control, and patience, are brought into play, to a degree almost incredible to those who do not know of what the mind is capable when it fixes itself steadily upon one object. Men will remain in the confinement of an hospital, or even in bed, for months; they will feign deafness or dumbness, and carry on the deception till they procure their discharge, or some clever trap succeeds in surprising them; a variety of receipts are in existence amongst old soldiers, by which "*malingerers*" (the cant term for a man who is feigning a disease to get discharged) can induce factitious blindness, ulcers, swellings, hernia, and other disabilities; and a case is on record in the archives of courts-martial, where a soldier persuaded a comrade to destroy his eye with a table fork. (Page 102.) In internal complaints the detection is easier, on account of the difficulty of inventing a series of natural symptoms, and the disposition to overdo, and they rarely succeed in feigning a languid eye or a sickly voice: but Mr. Marshall observes, that a confirmed "malingerer" is useless as a soldier, mischievous as an example, and generally contrives to obtain his discharge.

SHAM DEAFNESS.

A marine, while serving on board a ship of war, complained from time to time to the surgeon, that he was gradually losing the sense of hearing; and at the end of several months asserted that he was completely deaf. It being, however, presumed that the alleged infirmity was feigned, and as he could not be made to perform his duty, he was brought to the gangway and flogged; but previously to his being paraded for punishment, and during its infliction, he was informed that he should be pardoned if he would admit the fraud, and return to his duty. Every means that promised to be successful in surprising him into showing that he possessed the sense of hearing was resorted to, but without success: firing a pistol close to his ear, suddenly rousing him during sleep, and endeavouring to alarm him, elicited nothing satisfactory. The officers at Haslar Hospital, to which he had been sent, resolved to punish him a second time. Dr. Lind, who was then Physician to the Hospital, begged that punishment might be deferred, with the view of gaining time to try by another experiment whether the man was an impostor or not. His request was granted. The doctor chose a favourable opportunity, and coming unperceived behind him one day, he put his hand on the man's shoulder, and said, in an ordinary tone of voice, "I am happy to tell you that you are invalided at last." "Am I, by ——!" replied the overjoyed marine. The imposture being thus rendered evident, he was forthwith punished, and sent on board ship.

MARKS OF AN OLD SOLDIER.

Discharged men who reinlist, and deserters who wish to reënter the service, frequently omit to state that they have been soldiers, and consequently it is of importance to distinguish a man who has been in the army from the ordinary

class of recruits. A well-drilled soldier is in general easily recognised: his posture is generally upright, both when he is in motion and at rest; his chest is full, partly from an elevation of the sternum, and also from a greater development of the pectoral muscles; the shoulders are drawn back, and the scapulæ nearly approach each other. When, however, he wishes to conceal that he has been in the service, he sometimes assumes a slouching manner, which commonly disappears when he is desired to march smartly backwards and forwards in the inspection room, and, if the word "halt" be given, the influence of discipline becomes instantly evident.

Although this work is curious to the student of human nature, and full of information as to the statistics and economy of one branch of the Army, yet, as it is not very likely to have a popular circulation, we will note a few of its facts. The most startling one the reader must have already noticed—the sufferings men endure to escape the army. Another equally important is, that few if any inlist from a good or rational motive: drunkenness, abject poverty, some "scrape" in which they are involved, a mind distempered by passion, or the intention to desert after getting all they can, are the respectable motive powers which supply the ranks. Of the two great divisions of the poor, the rural and town population, the rustics form the best and most tractable soldiers—perhaps because they are less speculative or political than the "loom or the steam engine;" though the alleged reason is, that town recruits are "idle and dissolute," of "intemperate and vicious habits." The statistics of recruiting are very imperfect, but so far as they go, it appears that the number of rejections in the town recruits are much greater than the country.* With respect to age, Mr. Marshall and the continental writers think eighteen too young as a general rule, and that the best minimum is twenty, and the maximum five-and-twenty. In 1805, part of the French army, whose soldiers were all above twenty-two years of age, marched 400 leagues, and left scarcely any sick in the hospital: in 1809 another division marched a less distance, and filled the hospitals on the road; but half the men were under twenty. During a great part of the war the British army inlisted boys of sixteen years. in the three last years of the war the proportion of sick was 22½ per cent., of which the inefficiency from wounds was only 1½ per cent. Tall men are not so useful as men of a middle stature; being more obnoxious to disease, less capable of fatigue, and possessing less energy under depressing circumstances. Few men, at all events in the Infantry of the Line, pass forty years of age before they become worn out and unfit for service: the children of soldiers rarely live long; and in the cavalry the deaths by suicides are one in twenty!—*Ibid.*

ANIMAL CHEMISTRY AND PHYSIOLOGY.

AN ACCOUNT OF SOME EXPERIMENTS ON THE BLOOD IN CONNEXION WITH THE THEORY OF RESPIRATION.

By John Davy, M.D., F. R. S. Assistant Inspector of Army Hospitals.†

We shall content ourselves with an abstract of this interesting paper, which is published in the Second Part of the Transactions of the Royal Society for 1838.

The fundamental questions investigated experimentally by Dr. Davy, are:—

"I. *Is blood capable of absorbing oxygen independent of putrefaction?*"

"II. *Does the blood, especially venous blood, contain carbonic acid capable of being expelled by agitation with another gas, as hydrogen or oxygen?*"

"III. *What is the condition of the alkali in the blood in relation to carbonic acid?*"

* In Dublin the town rejections vary from 28.6 to 71.7 per cent.; in the country from 5.1 to 27.2 per cent.; but the country recruits have undergone a first examination, and town men may have enlisted in the country, or *vice versa*, though this operation probably nearly balances itself.

† Read before the Royal Society, June 21, 1838.

"IV. *Does the blood contain any gas capable of being extricated by the air-pump?*"

"V. *Of the air or gases contained in the blood capable of being extricated by the air-pump.*"

"VI. *Is any oxygen contained in the blood not capable of being extricated by the air-pump?*"

"VII. *When oxygen is absorbed by the blood, is there any production of heat?*"

1. In order to satisfy himself on the first point, respecting the capability of blood to absorb oxygen independently of putrefaction, Dr. Davy "employed two methods of experimenting; one, of agitating blood recently drawn, and rapidly cooled in common air and in oxygen, in a tube of the capacity of two cubic inches, divided into a hundred parts; the other, of agitating it in larger quantities with the same airs, in the very convenient apparatus employed by Dr. Christison when engaged in a similar inquiry, consisting of a double tubulated bottle of the capacity of thirty-two cubic inches, provided with stop-cocks adapted by grinding, to one of which a moveable bent glass tube was fitted to connect it with a pneumatic trough, and the other a perpendicular tube surmounted by a funnel.

"The blood subjected to experiment in every instance was prepared by the displacement of its fibrin. This was done by agitating it with small pieces of sheet-lead in a bottle filled to overflowing and closed with a cork, enveloped in a moist bladder and covered over with the same, tied round the neck of the bottle, so as to exclude atmospheric air whilst in the act of coagulating and of cooling, and to allow, when cooled, of the withdrawal of the cork. Prepared thus, and rapidly cooled," Dr. Davy "tried different specimens of blood, venous and arterial, of man, of the sheep, ox, dog, and cat; and the results, when the blood has been taken from a healthy animal, have been decisive and consistent. In every instance, whether atmospheric air or oxygen was used, after agitation, there was a marked diminution of the volume of air."

Dr. Davy states, that on a former inquiry he had arrived at a negative conclusion in opposition to the commonly received opinion.

"Using the graduated tube over mercury, sixty-two measures of arterial blood from the carotid artery [of a sheep], agitated with thirty-three measures of common air, produced a diminution of two measures; and sixty-three of the same arterial blood agitated with thirteen of pure oxygen a diminution of three; whilst sixty-three of venous blood from the jugular vein of the same animal, agitated with thirty-three of common air, produced a diminution of six; and seventy of this blood, with thirteen of oxygen, a diminution of eight."

"In every instance the absorption or disappearance of a portion of air has been attended with some change in the colour of the blood; the venous has invariably acquired the florid vermilion hue of arterial blood, and the arterial has had its florid hue heightened.

"The air that has been absorbed, or which disappears when atmospheric air has been used, in accordance with the commonly received opinion and the results of Dr. Christison's experiments, has been found to be oxygen.

"Relative to the residual air, when pure oxygen has been used, whether on the smaller or larger scale of experiment, no carbonic acid gas has been detected in it in the most carefully conducted trials. When common air has been employed, then a trace of this acid gas has been found in the residual air after agitation with the blood, but not exceeding one per cent. at a temperature between 40° and 50°."

The results above stated by Dr. Davy relative to the absorption or disappearance of oxygen, are at variance with those obtained in 1829, in Malta. He thinks the discrepancy may be owing in part to the difference of season when the two sets of experiments were conducted. The first were made in the months

of July and August, when the thermometer in the open air was generally above 80°, and occasionally above 90°. The last have been made in England in January, when the thermometer has often been as low as 20°. Dr. Davy is inclined to believe that the higher the atmospheric temperature is, and the less necessity there is for the production of animal heat, the less difference there is between venous and arterial blood, and the less power the former has of combining with oxygen, and of forming or evolving carbonic acid.

II. The second question proposed by Dr. Davy has been answered by Dr. Stevens in the affirmative: he maintains that carbonic acid gas exists in venous blood: that it may be expelled by oxygen or hydrogen, although not by the air-pump; and he supposes that the difference of effect is owing to a peculiar attraction for carbonic acid exercised by these gases.

Dr. Davy, in order to resolve his doubts on this important point, had recourse to the apparatus already mentioned. The results of many experiments, both on blood when drawn from animals, and in one instance from the human subject, its fibrin being broken up, and on blood which had been made largely to absorb carbonic acid* after being drawn, lead him to an inference unfavourable to the conclusion drawn by Dr. Stevens. Dr. Davy expresses himself, however, reservedly, on reflecting on some of his experiments in which a very little carbonic acid gas appeared to be extricated on agitating blood with hydrogen; and his believing that Dr. Stevens and other able inquirers could not have been misled on a point so little exposed to fallacy.

III. The reply to the third question stated by Dr. Davy, as to the condition of the alkali in the blood in relation to carbonic acid is, that the combination is a sesquicarbonate. The power of the blood to absorb carbonic acid and sulphuretted hydrogen accords best with this view, and some other properties of this fluid are, he believes, in harmony with it.

IV. The fourth question, of there being any gas extricable from the blood by the air-pump, has been answered negatively, as regards carbonic acid, by Drs. Duncan and Christison, Tiedemann, Gmelin, Mitschenlich and Müller, and affirmatively by Sir Everard Home, Mr. Brande, and recently by Bischoff and Magnus. Dr. Davy repeated the experiment shortly after Mr. Brande in 1818, but without confirming the result; neither by the air-pump, nor by heat applied even to coagulation of blood and serum in close vessels, did he succeed in the extrication of this acid. In this, his early and first trial, he employed the air-pump belonging to the laboratory of the Royal Institution, which was an excellent one, and which he believed to be in good order. Magnus has attributed the failures of former experimenters to their having used pumps of imperfect exhausting power, or to their not having carried the exhaustion sufficiently far.

The recent experiments, recorded in the present paper by Dr. Davy, were with an air-pump constructed for the purpose under the direction of an able artist, Mr. Ross, 33 Regent street. Experimenting with this machine on blood collected with such precautions as he believed to have been adequate to insure accuracy of results, *in a majority of instances the disengagement of gas has been rendered manifest, and both from arterial and venous blood.*

"Exceptions however have occurred, and those clear and decisive; inducing me," says Dr. Davy, "to believe that the quantity of air condensed in the blood

* Dr. Davy found that both blood and serum absorb more than their bulk of carbonic acid; 100 parts of the blood of man absorbed in one case 118; in another, 153 parts. The absorption by the blood of an ox was 194 parts.

is variable; that there are times when it is in excess, and times when in deficiency, and when totally wanting, connected with regularly changing states of the functional system."

V. The fifth question, of the air or gases contained in the blood capable of being extricated by the air-pump, has been answered by Magnus, by stating that these are carbonic acid, oxygen, and azote, in notable quantities. "Taking the mean of ten of his experiments on the blood of the horse and calf, (five on arterial and five on venous,) the total quantity of the mixed gases he obtained was, in the instance of arterial blood, 10.4 per cent. per volume, and in that of venous 7.6 per cent.; the former consisting of about 6.5 carbonic acid, 2.4 oxygen, 1.5 azote; the latter of 5.5 carbonic acid, 1.1 oxygen, 1.0 azote."

Dr. Davy found that carbonic acid gas, or air absorbable by a solution of potash, is disengaged both by venous and arterial blood *in vacuo;* but he did not see that any other gas was disengaged from either of them, neither oxygen nor azote, each of which is unabsorbable by the solution in question.

VI. The sixth question, as to the blood containing oxygen which cannot be extricated by the air-pump, is, to a certain extent, answered in the affirmative by Dr. Davy. He had recourse, for its solution, to the mixing of substances with the blood which possess a strong attraction for oxygen; such as hydrogen, phosphuretted hydrogen, sulphuretted hydrogen, nitrous oxide, and nitrous gas; and carbonic acid, which is more soluble in the blood than oxygen, and which would expel this latter.

The results obtained with hydrogen, sulphuretted hydrogen, nitrous oxide, and carbonic acid gas, were of a negative kind. Those with phosphuretted hydrogen, the spontaneously inflammable species, were of an ambiguous kind, not sufficiently clear to deduce from them any satisfactory conclusion. But with nitrous gas the case was different. Dr. Davy believes, from the result of the agitation of blood over mercury with this gas, and the ready absorption of the latter, as well as of oxygen; and the residual air in each instance being a mixture of nitrous gas and azote without carbonic acid, that a portion of oxygen exists in the blood not capable of being extricated by the air-pump, and yet capable of entering into combination with nitrous gas, and which exists in largest proportion in arterial blood. The azote, it may be presumed, was introduced with the nitrous gas; it was in the same proportion as that which adulterated it, viz., about four per cent.

VII. Is there any production of heat in the blood when it absorbs oxygen,—is the seventh and last question proposed by Dr. Davy for investigation. He replies in the affirmative.

"To endeavour to determine this point of so much interest, in connexion with the theory of animal heat, a very thin vial, of the capacity of eight liquid ounces, was selected and carefully enveloped in bad conducting substances, viz., several folds of flannel, and of fine oiled paper, and of oiled cloth. Thus prepared, and a perforated cork being provided, holding a delicate thermometer, two cubic inches of mercury were introduced, and immediately after it was filled with venous blood, kept liquid as before described. The vial was now corked and shaken; the thermometer included was stationary at 45°; after five minutes it was so stationary that the thermometer was withdrawn, the vial, closed by another cork, was transferred inverted to a mercurial bath, and the vial was well agitated for about a minute; the thermometer was now introduced, it rose immediately to 46°, and, continuing the agitation, it rose farther to 46°.5, very nearly to 47°. This experiment was made on the 12th of last February, (1837,) on the blood of the sheep."

On the following day a similar experiment was made with the venous blood

of a man, the temperature of which was increased one degree. Another, with the blood of a sheep, gave a similar result,—an elevation of the thermometer by one degree. Arterial blood (of a sheep) was used in a fourth experiment, and the increase of temperature was half a degree; viz., from 45° to 45°.5; the temperature of the air being 39°.

Dr. Davy recurs to a point which he had referred to in a former part of his paper: it is; whether the fixation of oxygen in the blood be attended with the formation of carbonic acid gas. He inclines to the belief "that the oxygen, in the first instance, is simply absorbed, and that the heat evolved is merely the effect of its condensation; or that, if any of it enters into immediate union with the carbon, it is only a small part of the whole."

VIII. Dr. Davy concludes with some remarks on the application of the results, detailed in his paper, to the theory of respiration and of animal heat.

As regards the former, they appear to him to show that the lungs are absorbing and secreting, and perhaps, exhaling organs, and that their peculiar function is to introduce oxygen into the blood, and to separate carbonic acid from this fluid.

As regards animal heat, the experiments would favour the idea that it is owing —first, to the fixation or condensation of oxygen in the blood in the lungs during its conversion from venous to arterial; and secondly, to the combinations into which it enters in the circulation in connexion with the different secretions and changes essential to human life.

In illustration of what he believes to be the secreting power of the lungs, he mentions the difference of effects in an instance of death by strangulation, and of another by exhaustion of air from the lungs by the air-pump. "A full grown Guinea-pig was the subject of experiment in each. The one killed by strangulation died in about a minute after a cord had been drawn tightly round its neck; the other, placed on the plate of the air-pump, and confined by a receiver just large enough to hold it, lived about five minutes after the exhaustion had been commenced, the pump the whole time having been worked rapidly. The bodies were immediately examined. The heart of the strangled animal was motionless; it was distended with dark blood; twelve measures of the blood, broken up and agitated with twenty more of carbonic acid gas, absorbed eighteen measures, or 150 per cent. The heart of the other Guinea-pig was also distended with blood, but of a less dark hue. Its auricles were feebly acting; the lungs were paler than in the former, and more collapsed; ten measures of blood from the heart, broken up and agitated with fifty of carbonic acid, absorbed thirty-seven measures, or 370 per cent!

"Farther, in illustration of this supposed secreting power of the lungs, I might (continues Dr. Davy), adduce the condition of the blood in disease, and in instances in which I have examined it after death from disease, in the majority of which I have found the blood loaded with carbonic acid, as indicated both by the disengagement of this gas, when the blood was agitated with another gas, and by the comparatively small proportion of carbonic acid which the blood was capable of absorbing. This condition of the blood, in relation to carbonic acid, I believe to be one of great interest and importance, and capable, when further investigated, of throwing light on many obscure parts of pathology, and especially on the immediate cause of death, and that happy absence of pain in dying which is commonly witnessed.

"As regards an exhaling power, which I suppose the lungs may possess, I conceive it may be exercised occasionally under peculiar circumstances,—circumstances, in the first instance, favouring an accumulation of carbonic acid gas in the blood, as undue pressure of any kind; and, in the second instance, circumstances of a different nature, connected with the removal of undue pressure, admitting thereby the excess to pass off."

CLUB-FOOT.

Dr. Detmold of New York has addressed us a letter, and sent at the same time a copy of one written by him to Dr. Walter, respecting some strictures of the latter on his, Dr. Detmold's, operations for club-foot. We insert the letter to Dr. W., which will, without any further preface on our part, explain the matter in dispute.

Copy of the letter to A. G. Walter, M.D., Pittsburg, Pa.

New York, August 18th, 1839.

Dear Sir:—I read in the last number of the Select Medical Library your observations on club-foot, and find that you have honoured me, and a report which I published some time ago, with your notice. Speaking of me, you say "we are not at all surprised at his report of failure in several cases;" and in another place, "Dr. Detmold, of New York, speaks in his report only of the division of the tendo-Achillis, and this accounts for his failures." From this it would appear that I not only have failed in several cases, but that you have derived the information of my failures from my own report.

Having within two years operated for a larger number of cases of this kind than likely ever came under the care of any surgeon in any country during the same space of time, and having never yet failed in a single instance, and consequently, not having spoken of any failure in my report, I am at a loss to know from where you could have got such an information of my failures. You will, therefore, oblige me, if you will, in a letter, point out to me such parts of my report which you could have interpreted to that effect, or if the information of my failure comes from another source, let me know the same.

Some other parts of your paper where you allude to my report, and my mode of treating club-foot, I pass over in silence, although they are equally erroneous; and I should have passed over the whole in silence, had not your paper appeared in a respectable medical journal.

In anticipation of an answer from you, I am your obedient servant,

Detmold, Dr.

ALBANY MEDICAL COLLEGE.

Albany, August 20th, 1839.

John Bell, M.D.,

Dear Sir,—An article appeared some time since in the American Medical Library, headed the "Albany Medical College and the Thompsonians," which would lead to the idea that some especial connexion exists between this College and the Thompsonian doctors. As this notice is calculated to lead the public into error, (unintentionally, no doubt, on the part of the editor,) we have thought proper to make the following explanation.

The Thompsonians, during their meeting in Albany, requested permission to visit the Albany Medical College, which was granted them, as to other persons who apply for the like favour. While there, they expressed to Dr. March their intention to recommend to their students to acquire a more thorough knowledge of anatomy, physiology, surgery, and chemistry, and asked on what terms they would be received in the Institution. Dr. March replied that they would be received on the same terms as any other person. It was neither intended by Dr. March, nor supposed by them who made the inquiry, that the Thompsonian students would be admitted to graduate, or be allowed any privileges which they would not enjoy in any other medical institution. For we suppose that no institution would refuse to admit an applicant to attend the lectures, simply because he may be the student of a Thompsonian doctor.

The charter of the Albany Medical College expressly enjoins, among other requisites for graduation, "that the student shall have pursued the study of Medical Science, for at least three years after the age of sixteen, with some physician and surgeon duly authorized by law to practice the profession," so that it would be out of the power of the faculty and trustees to grant degrees to Thompsonian students even were they disposed to form an alliance with

them, such as Dr. Dunglison seems to suppose exists, any other privilege but that of graduation they would enjoy, in common with other students in the Albany Medical College, as in other medical colleges in this country.

This explanation would have been made on the first appearance of the "resolutions in the Evening Journal of this city," but it was supposed that the publication would not be noticed out of the city of Albany, where the whole matter was understood. But since it has found its way into two of the most respectable journals in this country, the trustees deem it proper to correct the erroneous impression to which it might give rise.

JARED S. RATHBONE, *President.*

Had we made any comments on the affair which has been explained in a preceding letter, they certainly would have been in the same tone with those of our contemporary referred to. It is all very proper that the Albany Medical College should give instructions to the ignorant, as the Thompsonians, with rather more than their usual frankness, acknowledge their tribe to be. But we cannot see the propriety of the Faculty of the College, or any of their number, receiving formally a visit from such a body as a Thompsonian Convention. As well might a similar courtesy be extended to a body of firemen of the North River steamboats, if the latter had the effrontery to gather together in a body, calling themselves Vulcanians, and to claim and exercise the privilege of prescribing for the diseases of their fellow men.

HISTORY OF AMERICAN SURGERY.

Dr. Dunbar (Professor of Surgery in the Washington University of Baltimore) requests us to invoke the aid of the members of the profession in the United States for his contemplated work on American Surgery; by their supplying him with such matter akin to the subject as they may have become cognisant of, either through personal experience or reading, or transmitted knowledge from their predecessors. To this friendly course his professional brethren throughout the country will, we believe, readily incline; as well from motives of patriotism as from a desire to see justice done to their respective schools, and to the distinguished surgeons who have practised without the reflected lustre of teaching or of writing. Dr. Dunbar, intent alone on truth, will gladly receive information on every point connected with the progress, present state, discoveries and improvements of American surgeons,—through the medium of books, pamphlets, published essays in journals, and manuscript lectures, and by letter; and he will, in the same spirit of fair dealing, give proper credit to each and all, for the facts which may have been thus procured. The author would prefer the risk of being frequently reminded by correspondents of what is familiar, if not common-place, rather than to fail to receive from them notice of even the minutest detail of a surgical operation, or device, which has not been mentioned in the standard works on the subject, nor introduced to public attention through the journals of the day. Hence, he will receive with thankfulness a specification of the record, by chapter or article and page, of any fact germain to his subject, when it might be inconvenient for the suggesting friend to transmit the work itself in which the details are given.

Dr. Dunbar believes that he may count on the friendly aid of the following gentlemen, by their receiving for him materials which may be contributed by their professional brethren in the several cities, or regions of country in which they reside, viz.: the Editor of the Boston Medical and Surgical Journal, and Dr. J.

M. Warren, *Boston;* Professor Doane, *New York;* Drs. Randolph and Bell, *Philadelphia;* Professor Geddings, *Charleston, S. C.;* Professor Dudley, *Lexington;* Professor Jones, *New Orleans;* Professor Cooke, *Louisville;* Professor Paul F. Eve, *Augusta;* Professor Offart, *Vincennes, Ind'a.*

PENNSYLVANIA COLLEGE.

The fifth commencement of this institution took place in Christ's Church, in Gettysburg, on the 18th inst. The graduating class consisted of fourteen.

The Board of Trustees established a Medical Department, to be located in the city of Philadelphia, and have appointed the following Medical Faculty.

Anatomy and Physiology—Samuel George Morton, M.D.
Surgery—George W. McClellan, M.D.
Theory and Practice of Physic—William Rush, M.D.
Materia Medica and Pharmacy—Samuel Calhoun, M.D.
Obstetrics and Diseases of Women and Children—Samuel McClellan, M.D.
Chemistry—Vacant.

A Law Department was also established in connection with the institution, and the Hon. Daniel Durkee, of York, Pa., elected Professor of Law.

It will be seen from the above article, which we cut out from one of our city papers, that a new Medical School is about to begin operations in Philadelphia. We are not apprised of its intended locale.

The Louisville Medical Institute has been reinforced by Dr. Drake, of Cincinnati, as Professor of *Clinical Medicine and Pathological Anatomy*—a new professor and a new chair.

The Cincinnati Medical College is broken up, resolved into its original elements—each of the former professors being free to go where, and do what he likes, without his place being supplied by any other person.

Schools of medicine are, now-a-days, too often formed, reformed, revolutionized, and abolished, to suit the ambitious schemes, or even the whims of individuals, rather than to meet the wants for medical knowledge, and to enlarge the domain of medical science. So, also, the chairs in them are made and done away with according to the momentary exigency for securing or dispensing with the services of particular men. The profession has a large interest at stake in these matters: it is no less than the retention of the respectability and influence of its members in the eyes of the community—an effect itself depending on their good education, scientific knowledge and presumed philanthropy. If this irregular and adventitious manufacture of schools and doctors go on, it will not be easy to prevent a reception of the rival claims of every organized association which may claim to teach and practice, whether Thompsonian, Homœopathic, or Mormonism itself, a medical department of which, one need not be surprised to see introduced and advocated some of these days.

The London Dissector, or Guide to Anatomy—just published by John Murphy, Baltimore—is a neat pocket volume, or manual, revised and corrected by Dr. Edward J. Chaisty, Demonstrator of Anatomy in the University of Baltimore.

END OF VOL. III.